

HP Power Manager 3.1

User Guide



October 2003 (Second Edition)
Part Number 333101-002

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About This Guide

This guide provides information about HP Power Manager (HPPM) 3.1 including installation, configuration, operation, and troubleshooting.

Intended Audience

This guide is intended for individuals requiring information about the management of HP Uninterruptible Power Systems (UPSs).

Symbols in Text

These symbols may be found in the text of this guide. They have the following meanings.



CAUTION: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

IMPORTANT: Text set off in this manner presents clarifying information or specific instructions.

NOTE: Text set off in this manner presents commentary, sidelights, or interesting points of information.

Text Conventions

This document uses the following conventions:

- *Italic type* indicates complete titles of manuals or variables. Variables include information that varies in system output, in command lines, and in command parameters in text.
- **Bold type** is used for emphasis of selected onscreen elements (menu options, command names, dialog box names, and so on) and keyboard keys.
- `Monospace typeface` indicates code examples, screen displays, and user input.
- **Sans serif typeface** is used for uniform resource locators (URLs).

Related Documents

For additional information on the topics covered in this guide, refer to the following documents:

- Product user guides
- Product installation instructions
- *HP Power Products Glossary*

These documents are located on the Power Products Documentation CD or at <http://www.hp.com/products/ups>.

Getting Help

If you have a problem and have exhausted the information in this guide, you can get further information and other help in the following locations.

Technical Support

In North America, call the HP Technical Support Phone Center at 1-800-652-6672. This service is available 24 hours a day, 7 days a week. For continuous quality improvement, calls may be recorded or monitored. Outside North America, call the nearest HP Technical Support Phone Center. For telephone numbers of worldwide Technical Support Centers, go to <http://www.hp.com>.

Have the following information available before you call:

- Technical support registration number (if applicable)
- Product serial number
- Product model name and number
- Applicable error messages
- Add-on boards or hardware
- Third-party hardware or software
- Operating system type and revision level
- Power management software type and version

HP Website

For information on this product as well as the latest drivers, firmware updates, and service packs, go to <http://www.hp.com/products/ups>.

Authorized Reseller

For the name of your nearest authorized reseller:

- In the United States, call 1-800-345-1518.
- In Canada, call 1-800-263-5868.
- Elsewhere, see the HP website for locations and telephone numbers.

Reader's Comments

To comment on this guide, send an e-mail to ServerDocumentation@hp.com.

Overview

Introduction

HP Power Manager (HPPM) is software that enables users to monitor, manage, and control power environments through comprehensive control of individual HP Uninterruptible Power Systems (UPSs). A familiar browser interface provides secure remote access to Management Servers anywhere on the network. HPPM enables users to schedule system shutdowns, control power failure settings, and define UPS load segments to allow maximum uptime of critical servers.

For a detailed list of supported UPSs, refer to the Supported Hardware matrix on the HP Power Manager Product Overview page at <http://www.hp.com/products/UPS>.

HPPM software can be configured to send alert traps to Insight Manager 7 or other SNMP-management programs or run as a stand-alone power management system. This flexibility enables you to monitor, manage, and control the power environments of HP Six Port Cards and single, serially attached UPSs, regardless of the system management method. To facilitate day-to-day maintenance tasks, the software provides detailed system logs and system diagnostics, including UPS battery checks.

Use HPPM to:

- Customize alerts
 - Send e-mail notification messages
 - Send broadcast notification messages
 - Send SNMP traps
 - Issue computer commands at power failure
- Monitor, manage, and control UPSs
 - Manage a graceful shutdown of attached equipment during utility power failures
 - Manage independent UPS load segments to provide separate power control of connected equipment
 - Prioritize the timing of equipment shutdowns and reboot connected equipment by load segment
 - Delay restart by load segment after a power outage to sequence the startup of system components
 - Display logs for analysis
 - Monitor the status of UPSs and perform diagnostics
 - Communicate with single serial cards (RS-232) and multi-server serial cards (Six Port Card)

HPPM Overview

HPPM is a Web-based application that enables administrators to manage an HP UPS from a browser-based management console. Administrators can monitor, manage, and control each UPS both locally and remotely.

During a utility power failure, the UPS switches to battery mode. HPPM can issue an e-mail alert to the system administrator and begin a prioritized system shutdown based on user-defined settings for that specific UPS. After power is restored, HPPM can facilitate a prioritized power up for connected equipment.

The UPS can be configured to extend runtimes for critical devices during utility power failures. For most UPSs, the receptacles on the rear panel can be divided into two or more groups, called load segments, which can be controlled independently. By shutting down a load segment that is connected to less critical equipment, the runtime for more critical equipment is extended, providing additional protection.

HPPM Architecture

HPPM consists of two major components:

- Management Server
- Remote Agent

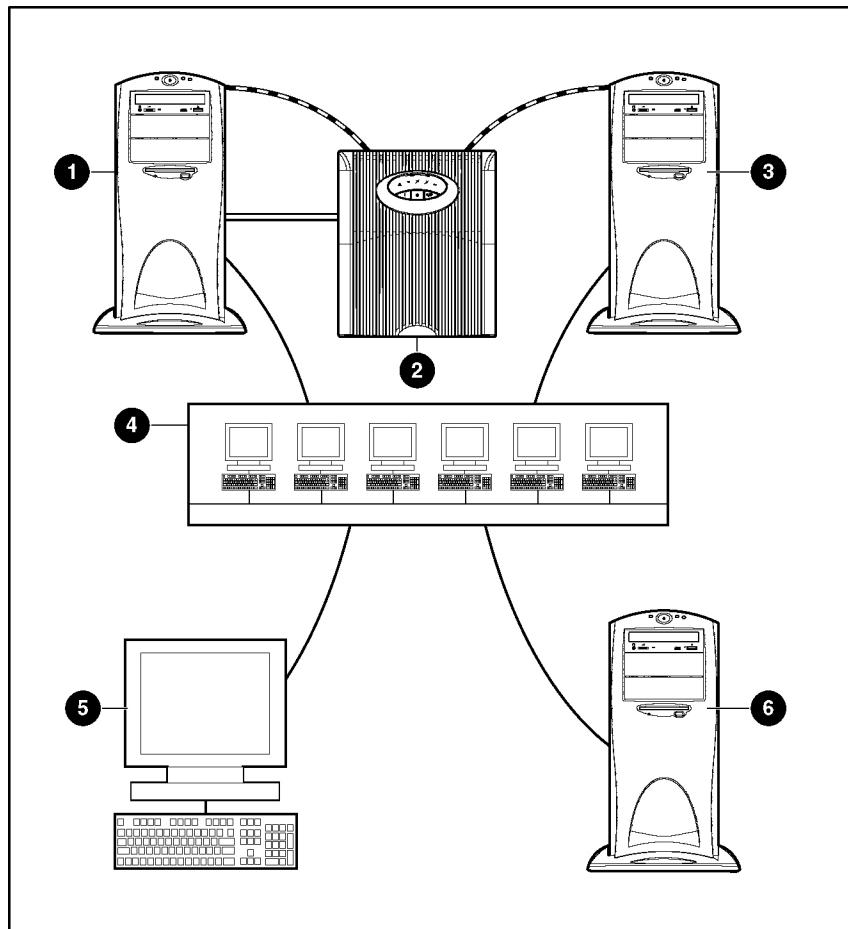


Figure 1-1: HPPM architecture

Item	Description
1	HPPM Management Server
2	A UPS that is serially attached to and managed by the Management Server
3	Remote Agent Server
4	Intranet
5	A remote workstation browsing into the Management Server over the network
6	Insight Manager 7 receiving alert traps from HPPM (optional)

Management Server

One Management Server is needed for each UPS that is monitored, managed, and controlled by HPPM. This server must be serially connected to the UPS. Specific features of the Management Server include:

- Controlling security and authentication, such as:
 - Supporting multiple users and associating each login with specific device access (access categories are regular user and administrator)
 - Providing the option of Secure Socket Layer (SSL) security
- Performing specified actions when alarms are set or cleared. The following unattended actions are supported:
 - Sending e-mail notifications, broadcast messages, and SNMP traps
 - Executing system batch jobs during shutdown (on Management Server or Remote Agent)
 - Performing operating system shutdown
 - Shutting down and restarting by load segment, if applicable
 - Performing UPS shutdown
- Performing a graceful, remote shutdown of the local operating system after a specified delay

NOTE: System hibernation (if supported by the operating system) is used to allow the system to be restored to its same state when the power returns.

- Maintaining event logs. Logs include the following types:
 - UPS event log, which contains UPS-related events, such as the UPS going on battery
 - Application event log, which contains application-related events, such as failed logins or settings changes
- Logging data variables. The following data values are logged:
 - Input voltage
 - Output voltage
 - Output load
 - UPS temperature
 - Battery voltage
 - Output power
 - Battery capacity
- Providing shutdown information to the Remote Agent
- Providing content for the user interface using an embedded Web server. The user interface is accessed using a supported Web browser. For more information on supported browsers, refer to the section, “Browser Requirements,” in Chapter 2.

The Management Server has been tested on the following operating systems:

- Microsoft® Windows NT® 4.0 Server with Service Pack 6
- Microsoft Windows® 2000 Server with Service Pack 4
- Microsoft Windows Server 2003
- Red Hat Linux 7.3, 8.0

IMPORTANT: Power protection for the Management Server is essential. The Management Server is the central point of control of the power management environment. If the Management Server goes down, the ability to gracefully shut down attached servers is lost.

Remote Agent

The Management Server provides both status and shutdown information to the Remote Agent. The Remote Agent runs on a server and allows HPPM to gracefully shut down the operating system of that server and issue computer commands during power failure. Install the Remote Agent on any server that is powered by the UPS and on any server that HPPM uses to initiate a command.

The Remote Agent has been tested on the following operating systems:

- Microsoft Windows NT 4.0 Server with Service Pack 6
- Microsoft Windows 2000 Server with Service Pack 4
- Microsoft Windows Server 2003
- Red Hat Linux 7.3, 8.0
- Novell NetWare 5.1 with Support Pack 6
- Novell NetWare 6.0 with Support Pack 3

Supported Hardware Configurations

HPPM requires that the Management Server be connected to the network. UPSs can be attached in any of the following configurations:

- Configuration A—One UPS is serially attached to a Management Server.
- Configuration B—Several Management Servers are serially attached to a Six Port Card on a single UPS.
- Configuration C—One Management Server is serially attached to a UPS and communicates to several Remote Agents over the network.

Configuration A

Figure 1-2 illustrates a UPS serially attached to a Management Server that is plugged into a load segment of the UPS. The Management Server is connected directly to the network. A remote workstation can browse into the Management Server over the network.

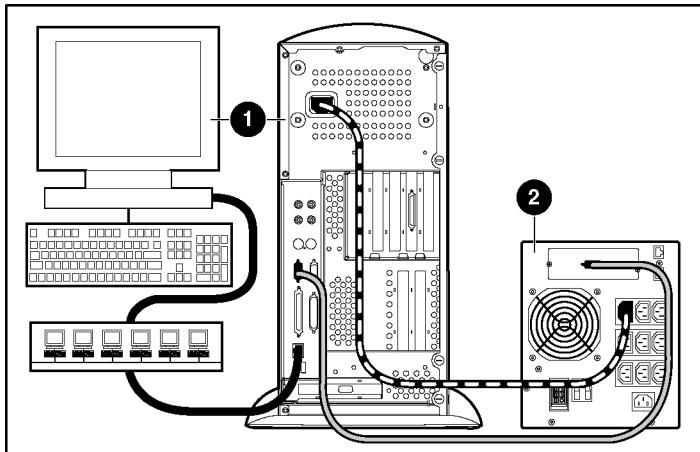


Figure 1-2: Configuration A

Item	Description
1	Remote workstation and Management Server
2	UPS

Configuration B

In Figure 1-3, each server is a Management Server and is serially attached to the UPS through a Six Port Card. The Six Port Card makes each server operate as if it is the only Management Server attached to the UPS. This option card supports up to three attached servers, and these servers do not communicate with each other.

NOTE: Attached Remote Agents are not tested or supported in this configuration.

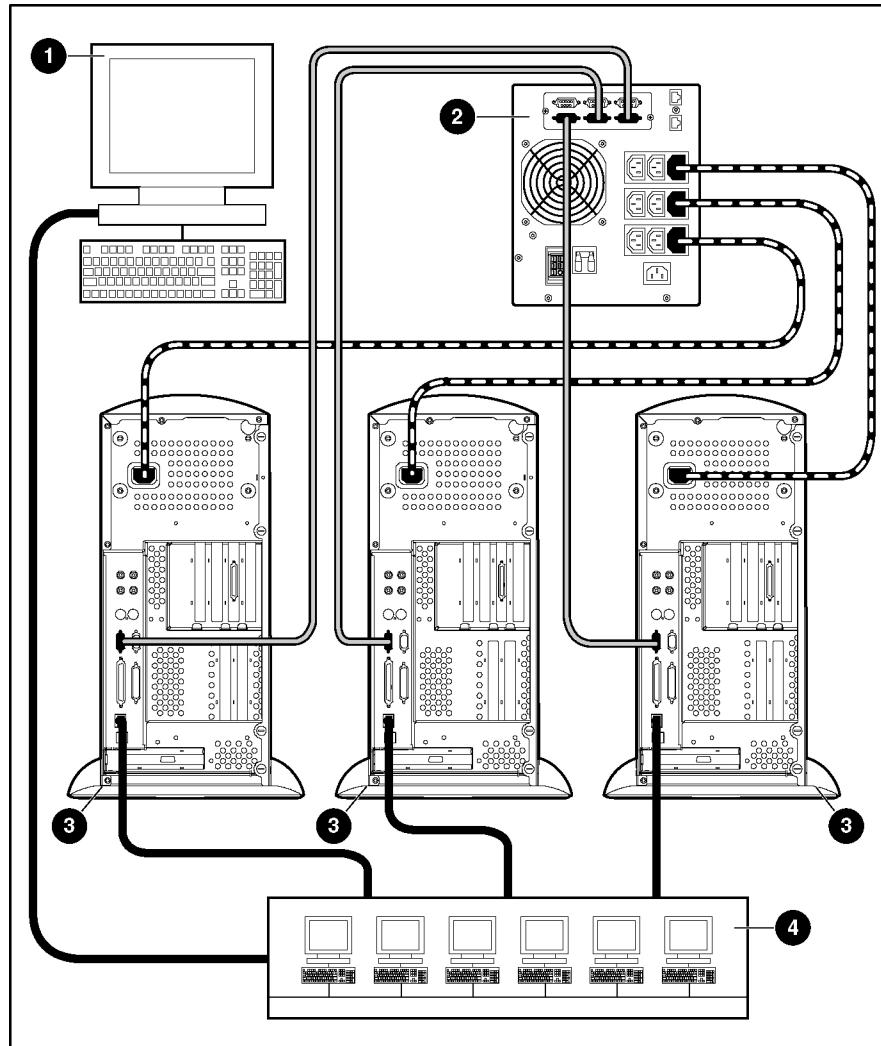


Figure 1-3: Configuration B

Item	Description
1	Remote workstation browsing into the Management Server over the network
2	UPS with Six Port Card installed
3	HPPM Management Servers
4	Network

Configuration C

In Figure 1-4, only one server is a Management Server and is serially attached to the UPS. This Management Server communicates to the Remote Agent servers over the network to begin a graceful shutdown in the event of a power failure or other configured shutdown events.

NOTE: Up to 15 Remote Agent servers can be managed by one Management Server.

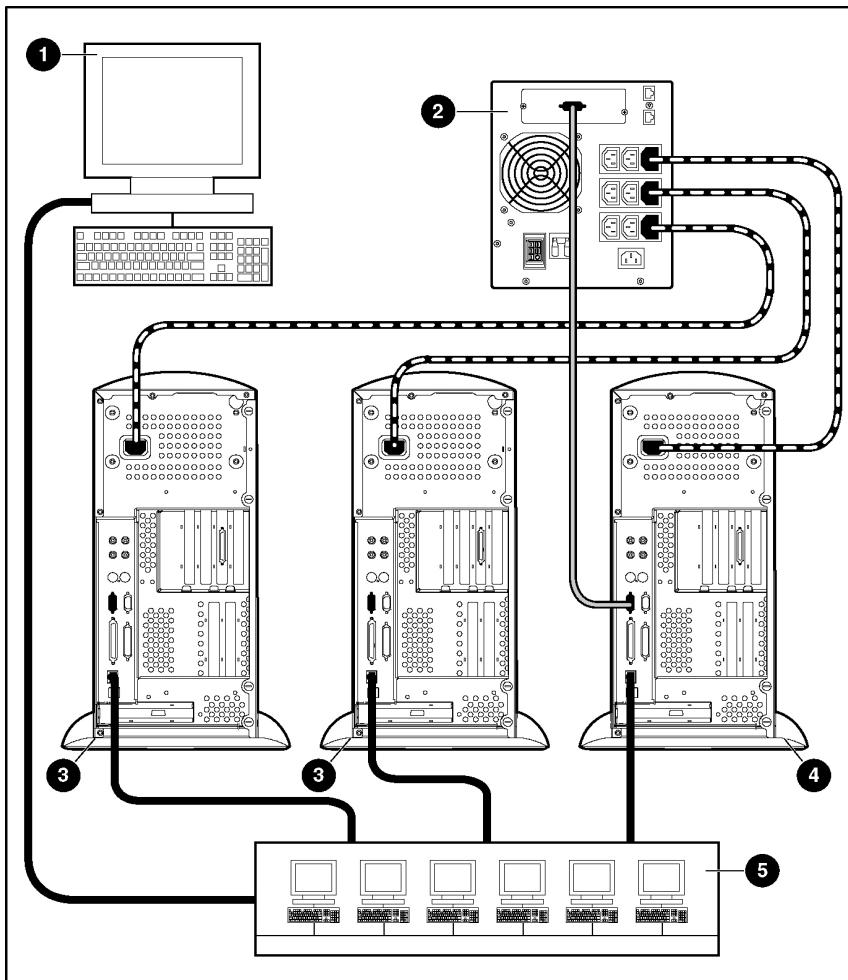


Figure 1-4: Configuration C

Item	Description
1	Remote workstation browsing into the Management Server over the network
2	UPS
3	Remote Agent Servers
4	HPPM Management Server
5	Network

Installation

System Requirements

Table 2-1 lists the minimum HPPM hardware and software requirements.

NOTE: For the latest system requirements, refer to the Supported Hardware matrix on the HP Power Manager Product Overview page at <http://www.hp.com/products/UPS>.

Table 2-1: HPPM Minimum System Requirements

HPPM Component	Hardware and Software	Suggested Minimum Requirements
Management Server	Hardware	500-MHz Pentium® computer
	Disk space	25 MB free disk space
	System memory	128 MB of RAM
	Operating system	<ul style="list-style-type: none"> • Microsoft Windows NT 4.0 Server with Service Pack 6 • Microsoft Windows 2000 Server with Service Pack 4 • Microsoft Windows Server 2003 • Red Hat Linux 7.3, 8.0
Server software	Server software	<ul style="list-style-type: none"> • A supported operating system with a static IP address (recommended), TCP/IP installed and configured • SNMP services installed and active (optional)

continued

Table 2-1: HPPM Minimum System Requirements *continued*

HPPM Component	Hardware and Software	Suggested Minimum Requirements
Remote Agent	Hardware	200-MHz Pentium computer
	Disk space	10 MB free disk space
	System memory	64 MB of RAM (180 MB for NetWare 6.0)
	Operating system	<ul style="list-style-type: none"> • Microsoft Windows NT 4.0 Server with Service Pack 6 • Microsoft Windows 2000 Server with Service Pack 4 • Microsoft Windows Server 2003 • Red Hat Linux 7.3, 8.0 • Novell NetWare 5.1 with Support Pack 6 • Novell NetWare 6.0 with Support Pack 3

Browser Requirements

Table 2-2 lists the minimum HPPM browser requirements.

Table 2-2: Minimum Web Browser Requirements

Software	Browser
Web browser on a client	Microsoft operating systems
	<ul style="list-style-type: none"> • Microsoft Internet Explorer 6.0 Service Pack 1
Monitor resolution	Minimum supported resolution of 1024 x 768, 16-bit high color (maximize browser window for optimal display)

Note: Browsing requires the use of Macromedia Flash Player 6.0, which is included in the HPPM Management Server installation. If you do not have Flash Player installed, you are prompted to install it. Click the link and follow the installation prompts.

Mozilla Settings

When using SSL with Mozilla, a browser session with the HPPM Management Server might hang. To resolve the problem, make the following change to the Mozilla settings:

1. From the folder into which Mozilla was installed, under the defaults directory, open the **pref** subdirectory.
2. Using a text editor, open the file all.js.
3. Change the entry:

```
pref("network.http.max-connections-per-server", 8)
```

to read

```
pref("network.http.max-connections-per-server", 1)
```
4. Save the file, and restart Mozilla.

Installation Overview

NOTE: Two paths can be taken when installing HPPM software. Follow the instructions below for upgrading and fresh installations.

A graphical or command line installer is used for installing HPPM on Windows operating systems. A script is used for installing HPPM on Linux operating systems. You have the option to install either the Management Server or the Remote Agent. Follow these guidelines when installing the components:

- Management Server—Install the Management Server on the computer that is serially attached to the UPS and responsible for managing other systems and devices connected to the UPS.
- Remote Agent—Install the Remote Agent on any computer that is powered by the UPS.

For each component of HPPM, there are three installation options:

- Graphical user interface (GUI) installation—A series of dialog boxes and prompts guide you through the installation process.
- Non-GUI installation—A series of commands are necessary to complete the installation.
- Silent installation—A preconfigured initialization file is specified during installation. This file is placed into the proper directory, and you are not prompted for any information.

Silent installation is typically used by system administrators that have many installations that are configured identically and require minimal user interaction. To use this method in HPPM:

- a. Install an HP Power Management Server or Remote Agent through the assisted installation method that is appropriate for the operating system.
- b. Configure the server or agent exactly as the final replicated systems should be configured. Use the exact same UPS model and thoroughly test the configuration, including any alarm or notification events.

- c. Use the .INI file that is generated in the directory of the application as a template in the Silent install process.
- d. Change any items that should be unique, such as Device Name, Management Server Name, or Remote Agent Name, through the normal operation of HPPM.

A user setup program is launched automatically when the installation is complete.

Table 2-3 summarizes the available installation options for each operating system.

Table 2-3: Installation Options

Operating System	GUI Installation	Non-GUI Installation	Silent Installation
Microsoft Windows NT 4.0 Server	Available	-	Available
Microsoft Windows 2000 Server	Available	-	Available
Microsoft Windows Server 2003	Available	-	Available
Red Hat Linux 7.3, 8.0	-	Available	Available
Novell NetWare 5.1, 6.0	-	Available	-

Installing Components on Windows Operating Systems

The Management Server and Remote Agent can be installed using the GUI installation method on any supported Windows operating system.

IMPORTANT: The HPPM Management Server and Remote Agent components cannot be installed on the same computer.

NOTE: You might need to reboot after installing the Remote Agent on Windows.

The Management Server and Remote Agent can be installed using the silent installation option on any supported Windows operating system.

Installing the Management Server Using the GUI Installation Method

To install the Management Server on a Windows system using the GUI installation method:

1. Insert the Rack and Power Management Pack CD (shipped with each UPS) into the CD-ROM drive of the computer. If the AutoPlay feature is enabled, the **Welcome** screen appears.
If the AutoPlay feature is disabled, explore the CD and double-click AUTORUN.EXE in the root folder. Follow the on-screen prompts to install.
If the HPPM software has been downloaded from the HP website, follow the instructions to unpack the files, then locate and run SETUP.EXE for the Windows Management Server.
2. If upgrading from a previous version, click **Upgrade**. If not, continue to step 3.

NOTE: Upgrading does not delete any custom settings. All custom settings are saved upon running Setup.exe.

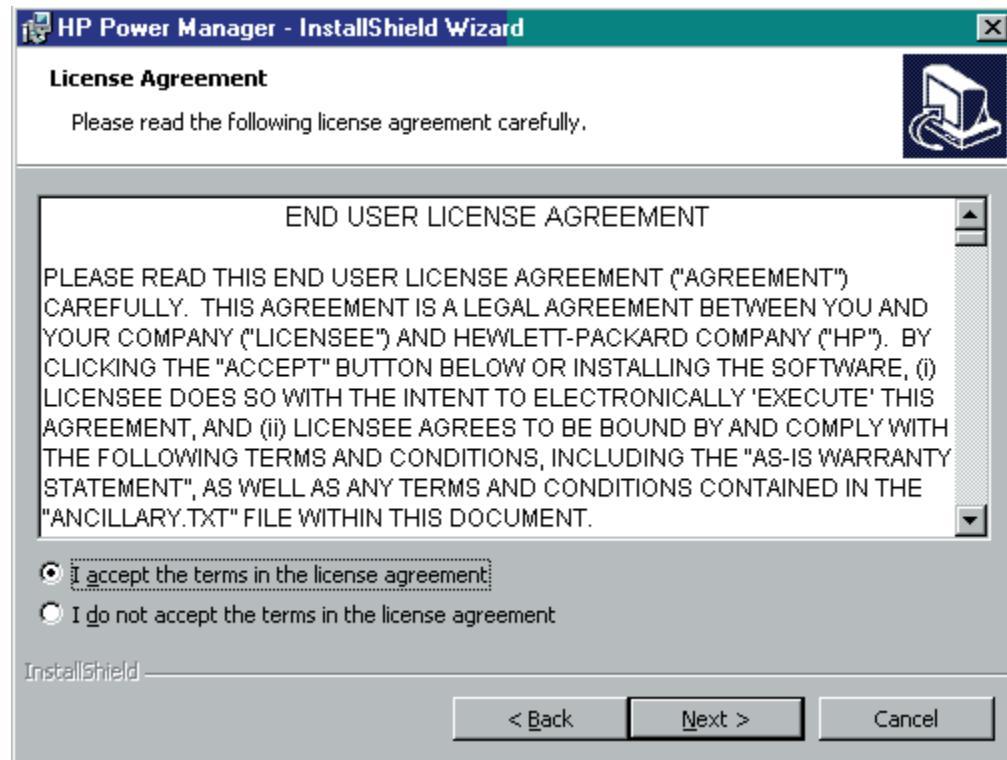


3. Read the introduction and click **Next**.



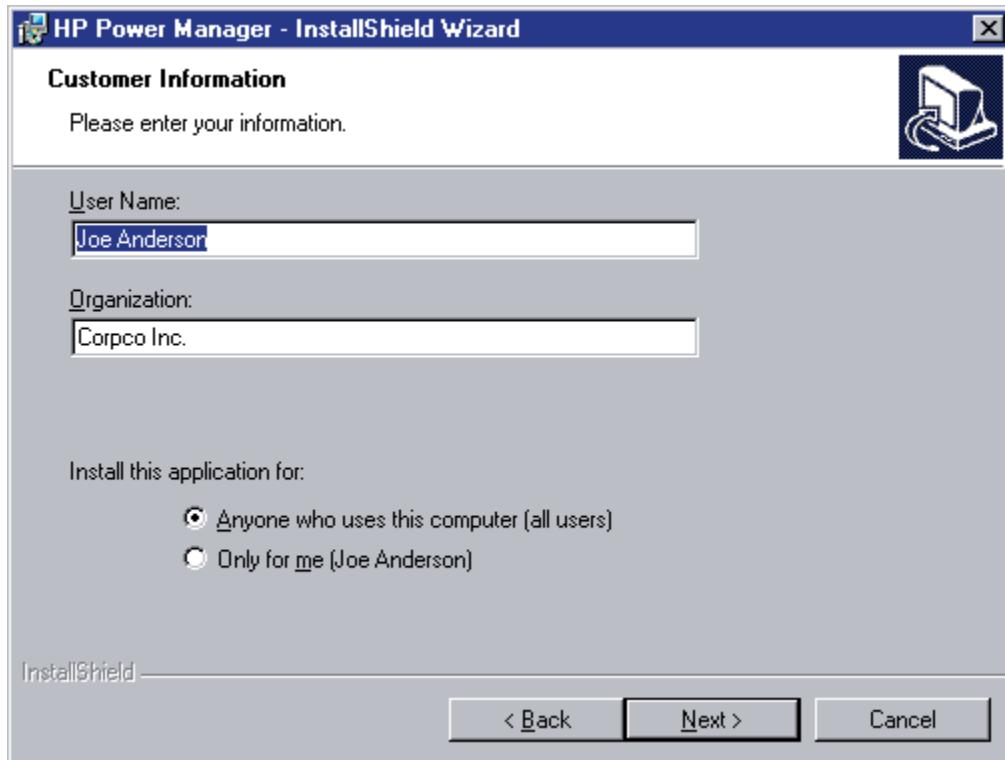
The License Agreement screen appears.

4. Read the license agreement, select **I accept the terms in the license agreement**, and click **Next**.



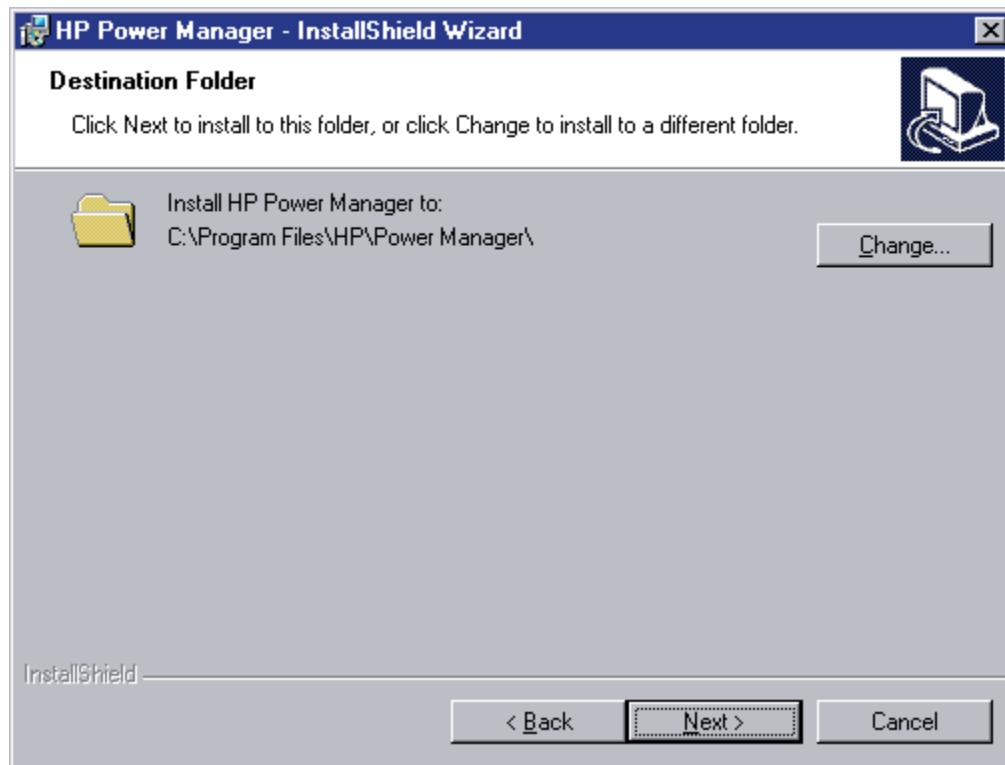
The Customer Information screen appears.

5. Verify or change the customer information, select whether to install for all users or only the current user, and click **Next**.



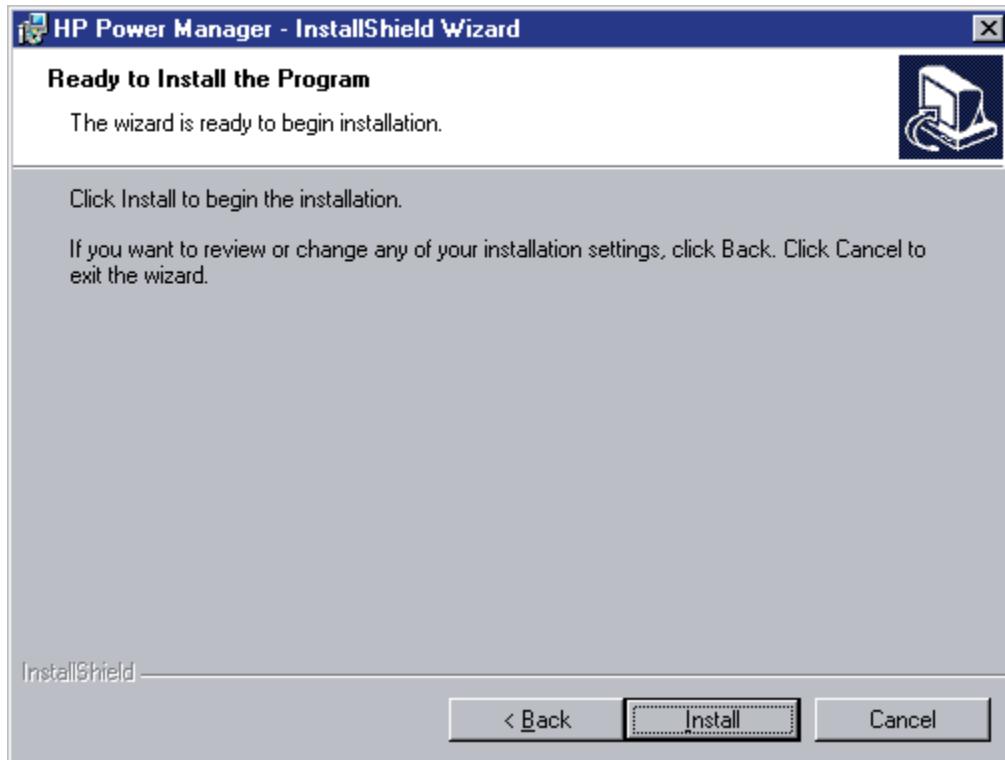
The Destination Folder screen appears.

6. Click **Next** to install the Management Server in the default folder that is displayed below the Install HP Power Manager to: field. To specify a different folder, click **Change**, navigate to the appropriate folder, and click **Next**.



The Ready to Install the Program screen appears.

7. Click **Install**. The wizard installs the software and launches a separate configuration process.



8. Click **Finish** to exit the install wizard.

NOTE: This is the final step in the upgrade process. Continue with step 9 for the installation.



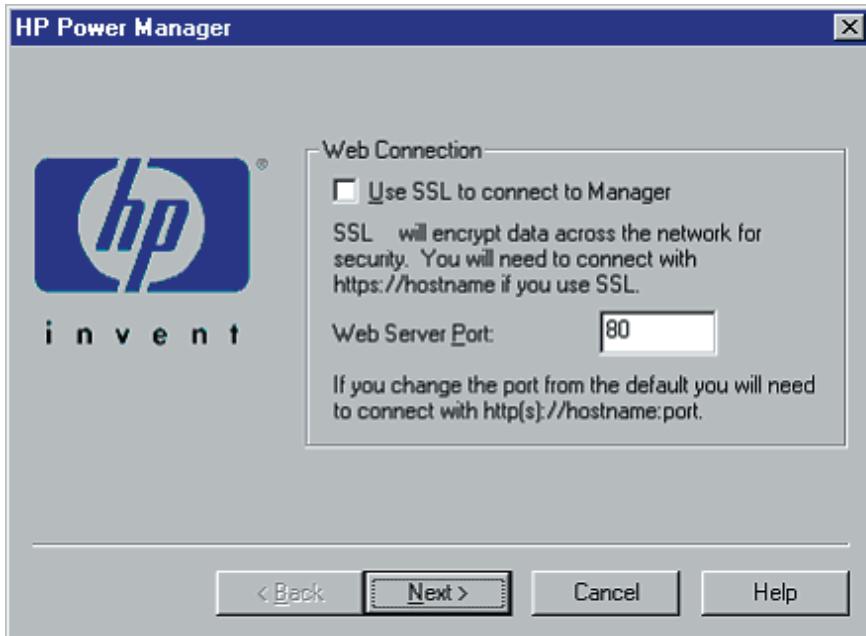
9. Click **Next** to use the standard HTTP protocol and port for Web browser access to the Management Server.

To use the SSL on the standard port, select **Use SSL to connect to Manager**. To use a non-standard port for browser access, change the value in the **Web Server Port:** field.

Verify the port you specify is not already being used.

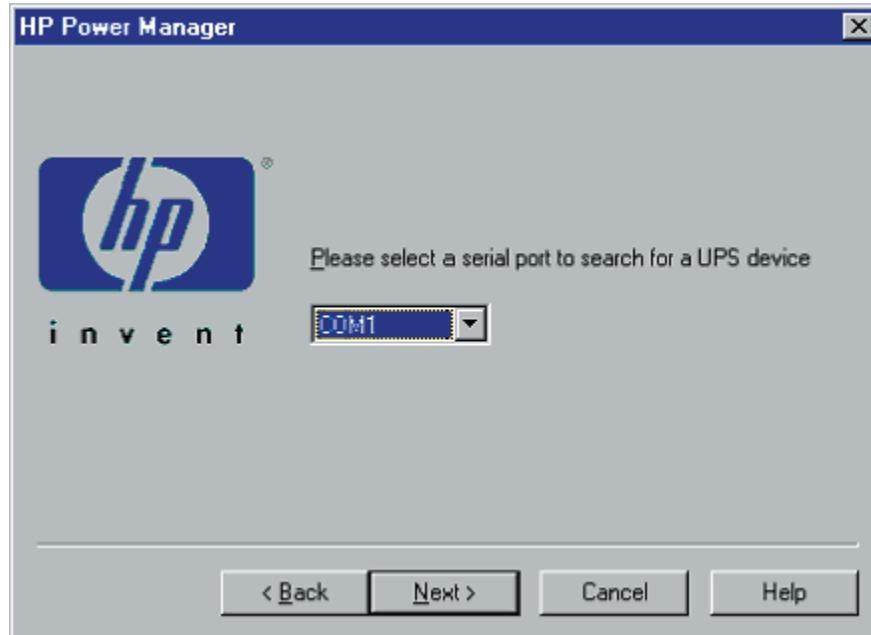
Click **Next**.

IMPORTANT: The common Web server port is port 80. The default port for SSL is 443. Verify no other Web servers are currently running on these ports or the port that you select. The port you select must be unique. Make note of the port number for future reference.



NOTE: To reconfigure the Web connection, communications port, or to change to a different UPS, refer to the section, "Reconfiguring Components on Windows Operating Systems," in this chapter.

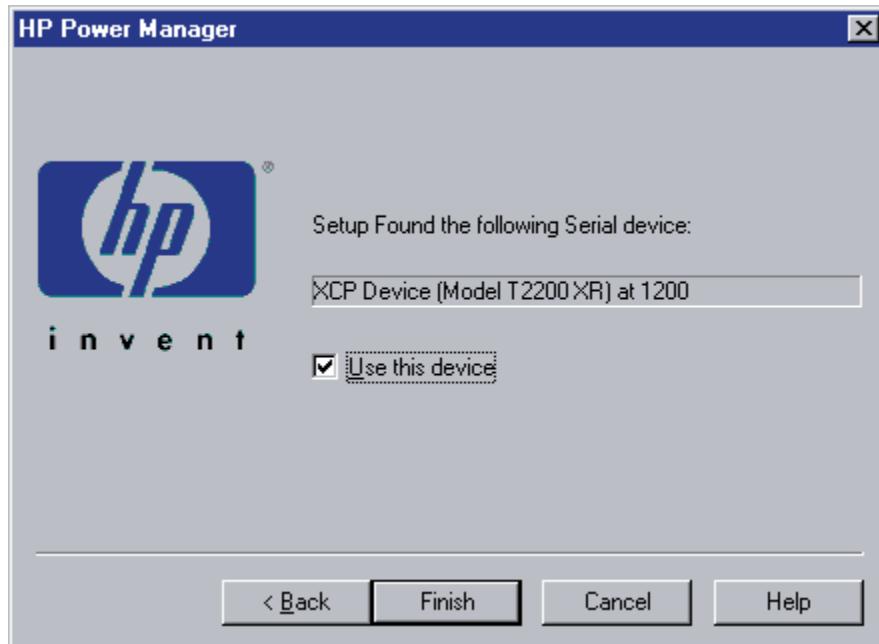
10. Select the serial (COM) port that the computer uses to communicate with the UPS. Click **Next**.



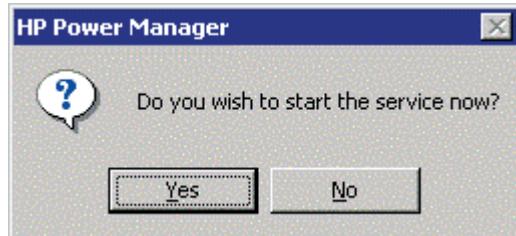
11. Information about the discovered UPS appears.

If the information is correct, select **Use this device**. Click **Finish** to close the configurator and return to the install wizard.

If the information is incorrect or no UPS was detected, click **Back** to check your selections.



12. Click **Yes** to start the service. Wait until the tray icon displays a green check mark to begin using the software.



NOTE: An icon in the Windows system tray shows the status of the Management Server. It might take a few moments for the icon to change. A green check mark displays if the Management Server is communicating with the UPS without errors. If there are problems, the icon displays. Hover over the icon with the mouse pointer, and a tool tip displays a status message. For more information about the system tray icon status messages, refer to the section, "System Tray Icon," in Chapter 3.

Installing the Remote Agent Using the GUI Installation Method

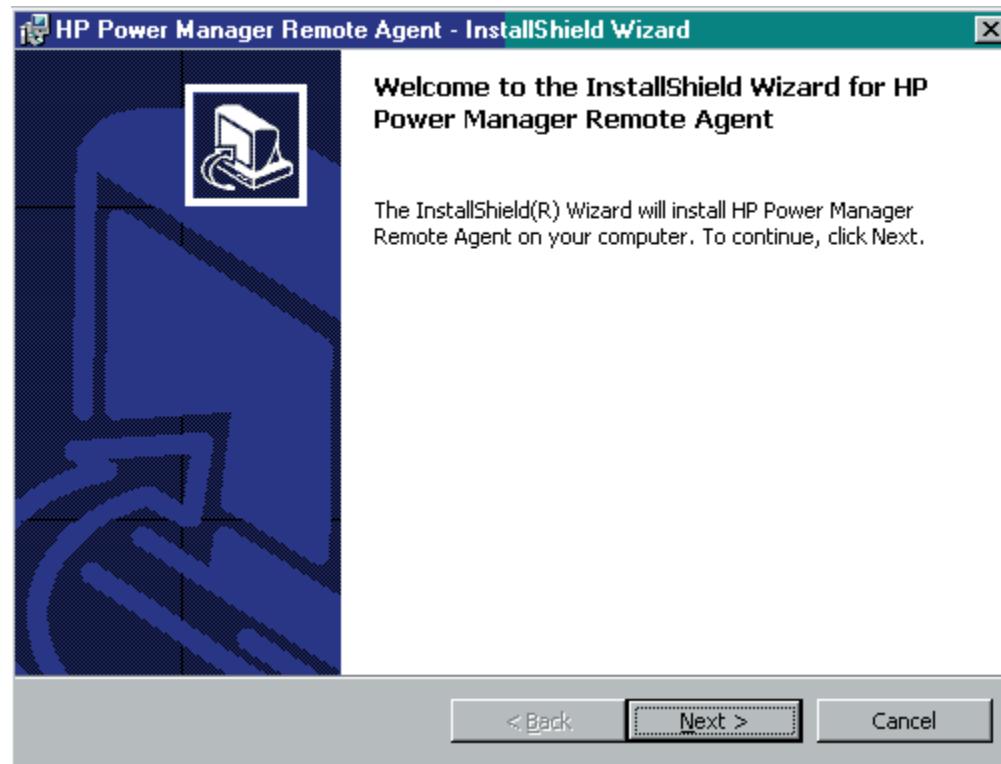
To install the Remote Agent on a Windows system using the GUI installation method:

1. Insert the Rack and Power Management Pack CD into the CD-ROM drive of the computer. If the AutoPlay feature is enabled, the installation menu automatically starts.
If the AutoPlay feature is disabled, explore the CD and double-click AUTORUN.EXE in the root folder.
If the HPPM software has been downloaded from the HP website, follow the instructions to unpack the files, then locate and run SETUP.EXE for the Windows Remote Agent.
2. If upgrading from a previous version, click **Upgrade**. If not, continue to step 3..

NOTE: Upgrading does not delete any custom settings. All custom settings are saved upon running Setup.exe.

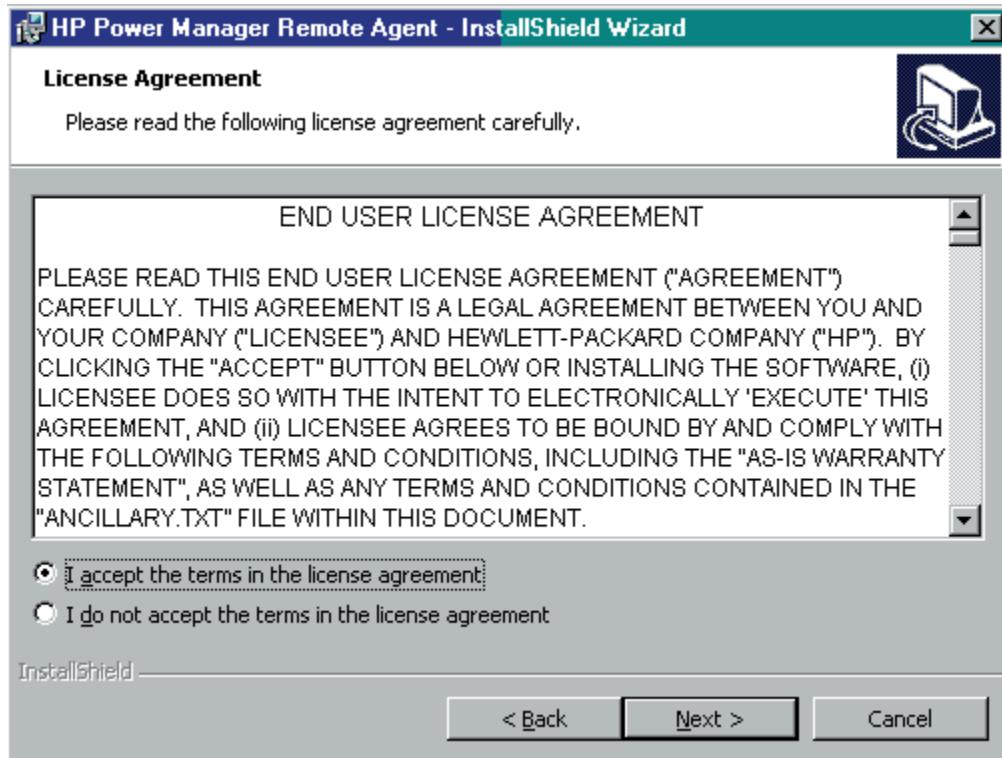


3. Read the introduction and click **Next**.



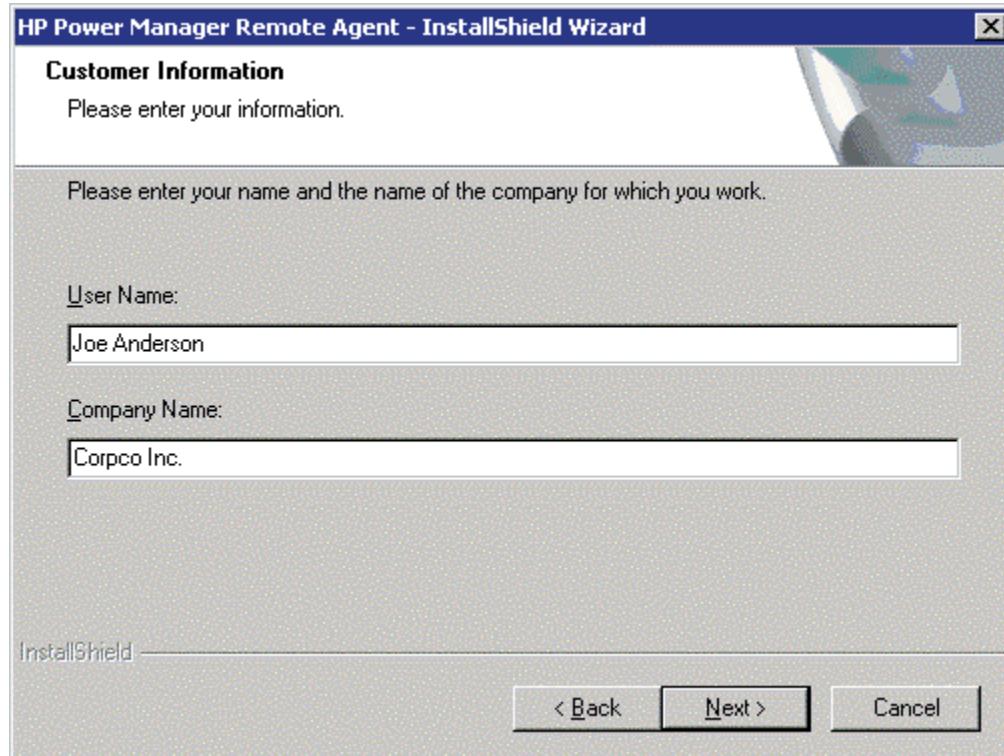
The License Agreement screen appears.

4. Read the license agreement, select **I accept the terms in the license agreement**, and click **Next**.



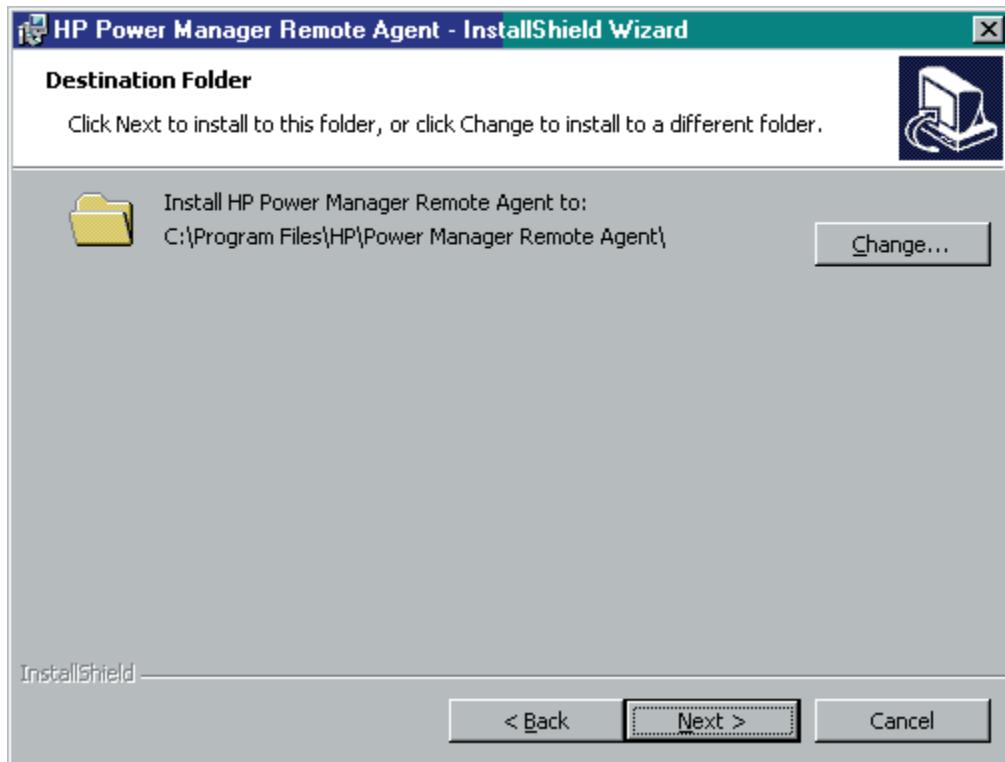
The Customer Information screen appears.

5. Verify or change the customer information, select whether to install for all users or only the current user, and click **Next**.



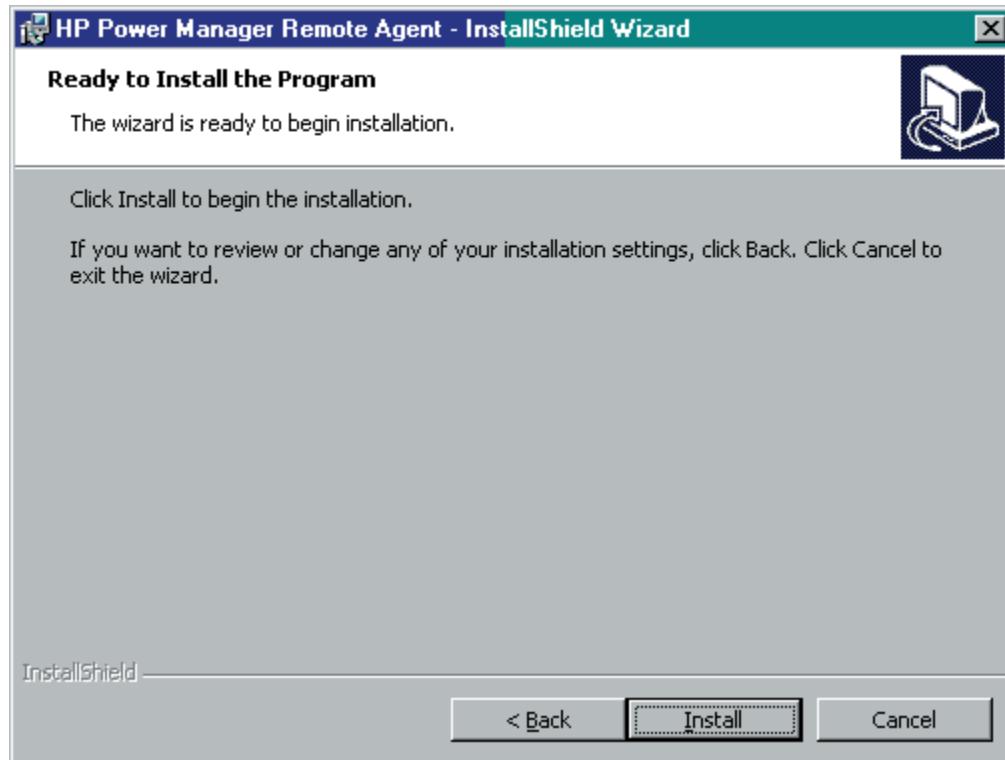
The Destination Folder screen appears.

6. Click **Next** to install the Remote Agent in the default folder that is displayed below the Install HP Power Manager Remote Agent to: field. To specify a different folder, click **Change**, navigate to the appropriate folder, and click **Next**.



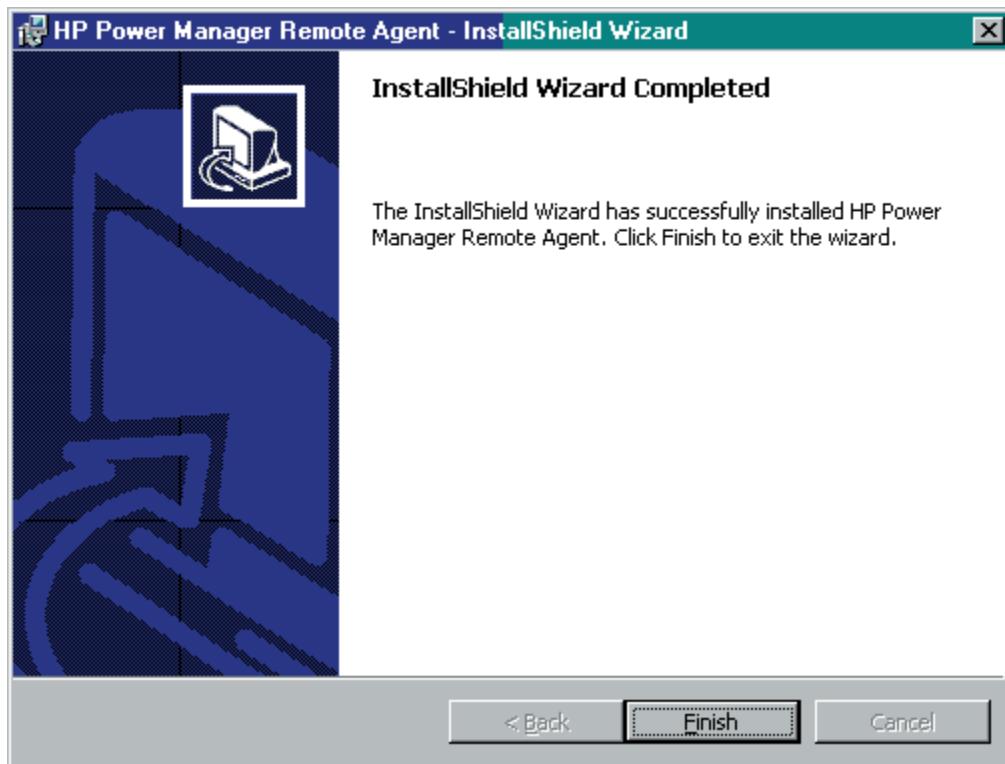
The Ready to Install the Program screen appears.

7. Click **Install**. The wizard installs the software and launches a separate configuration process.



8. Click **Finish** to exit the install wizard.

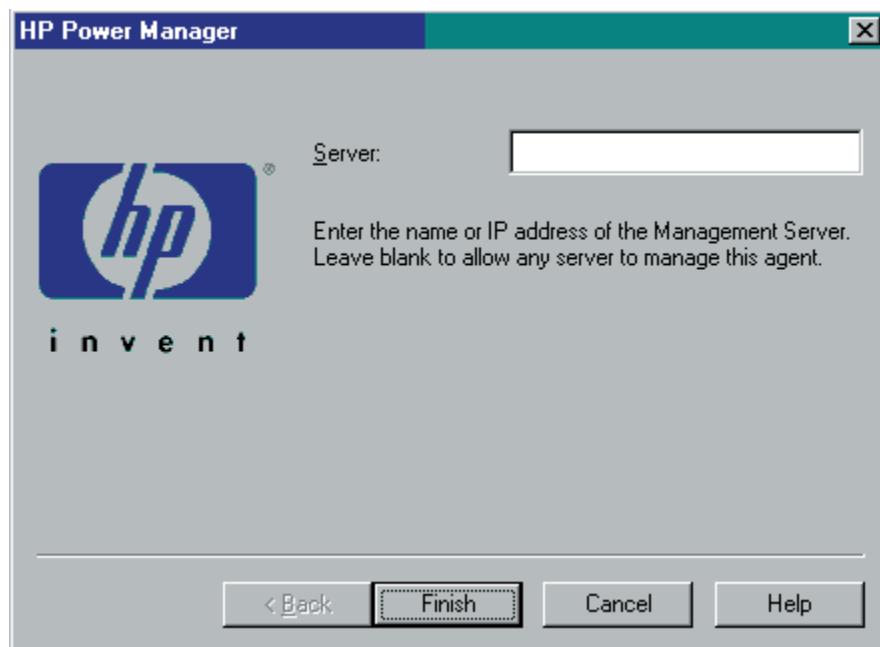
NOTE: This is the final step in the upgrade process. Continue with step 9 for the installation.



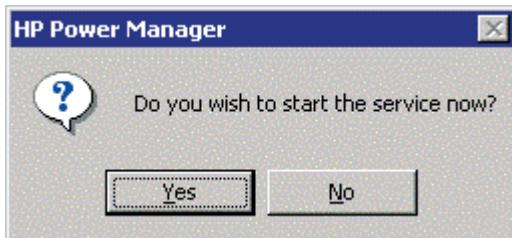
9. For the most security, enter the host name or IP address of the Management Server. This setting ensures only that particular Management Server executes commands and operating system shutdowns on the computer running the Remote Agent.

If security is not a concern, leave this field as is.

Click **Finish** to close the configurator and return to the install wizard.



10. Click **Yes** to start the service. Wait until the tray icon displays a green check mark to begin using the software.



NOTE: An icon in the Windows system tray shows the status of the Remote Agent. It might take a few moments for the icon to change. A green check mark displays if the Management Server is communicating with the UPS without errors. If there are problems, the icon displays. Hover over the icon with the mouse pointer, and a tool tip displays status message. For more information about the system tray icon status messages, refer to the section, "System Tray Icon," in Chapter 3.

To reconfigure the web connection, communications port, or to change to a different UPS, refer to the section, "Reconfiguring Components on Windows Operating Systems," in this chapter.

Installing the Management Server Using the Silent Installation/Upgrade Method

To install the Management Server on a Windows system using the silent installation method:

1. If you do not have the configuration .INI file, refer to the section, “Installation Overview,” in this chapter for instructions.

NOTE: The configuration .INI file is required for silent installations but is optional for upgrading.

2. Run `Setup.exe /s /f "<path>\DevManBE.ini"` to install silently. Replace `<path>` with the DevManBE.ini file location.

NOTE: If you are installing to a location other than the default path (szDir=C:\Program Files\HP\PowerMgr), edit the destination path in the Setup.iss file.

The following command line parameters can be specified and are applicable for both interactive and silent modes.

Table 2-4: Command Line Parameters

/s	Performs a silent install or upgrade.
/r	Reboots the computer at completion of setup. This option is supported only on Windows and only for a silent install/upgrade.
/log	Creates an installation log (/usr/local/DevMan/setup.log). Default is disabled for interactive mode and enabled for silent mode. This option is supported only on Linux. The installation log is created automatically for Windows during silent installations in \%systemdrive%\setup.log.
/f DevManBE.ini	Specifies a configuration .INI file used for both upgrades and clean installs. When this option is specified, the device detection and configuration step is omitted. If this option is specified for the upgrade, it overwrites any saved .INI file settings. This parameter is required for silent installations but is optional for upgrading.

Installing the Remote Agent Using the Silent Installation Method

To install the Remote Agent on a Windows system using the silent installation method:

1. If you do not have the configuration .INI file, refer to the section, “Installation Overview,” in this chapter for instructions.

NOTE: The configuration .INI file is required for silent installations but is optional for upgrading.

2. Run `Setup.exe /s /f "<path>\DevManRA.ini"` to install silently. Replace `<path>` with the DevManRA.ini file location.

Reconfiguring Components on Windows Operating Systems

To reconfigure the Web connection or communications port or to change to a different UPS:

- Right-click the system tray icon to display a context menu from which the Management Server service can be stopped or started. In this menu, you can also configure communication settings using the **Configure** option or launch a browser session using the **Connect** option.
- Select **HP Power Manager Configure** from the HP Power Manager option in the Start Programs menu.

Installing Components on Linux Operating Systems

The Management Server and Remote Agent can be installed using an installation script on any supported Linux operating system.

NOTE: The Management Server and Remote Agent components cannot be installed on the same computer.

The Management Server and Remote Agent can also be installed using the silent installation option on any supported Linux operating system.

Installing the Management Server Using the Installation Script

NOTE: The HPPM Linux package (PowerManager-3.1-x.i586.rpm) requires that the compat-libstdc++7.3-2.96.110.i386.rpm file is installed.

To install the Management Server on a Linux system using the installation script:

1. Insert the Rack and Power Management Pack CD into the CD-ROM drive of the computer. From the console or a terminal window, go to the **HPPM/.Linux/Manager** subdirectory. Execute the following installation script:

```
./Setup
```

If the HPPM software has been downloaded from the HP website, follow the instructions to unpack the files. Locate the Linux Management Server installation script (`Setup`) and execute it as previously indicated.

The script installs the Management Server component and requests information to configure the application. Default values or valid options are shown in brackets following each prompt.

```
[root@fish PowerManager]# ./Setup
Installing HP Power Manager
Shutting down UPS Device Manager Service: done.
Do you wish to use SSL to communicate with HP Power Manager? [yN]: 
Please enter a port to use for web communications [80]: 
Please select a serial port to search for a UPS device on:
 1) /dev/ttyS0
 2) /dev/ttyS1
 3) /dev/ttyS2
 4) /dev/ttyS3
 5) /dev/ttyS4
 6) /dev/ttyS5
 7) /dev/ttyS6
 8) /dev/ttyS7
 9) /dev/ttyS8
10) /dev/ttyS9
[1]: 
Looking for serial devices:
Trying: Pro UPS
Trying: XCP
Found XCP Device at 9600 bps
Would you like to start HP Power Manager? [Yn]
Starting UPS Device Manager Service: done.
[root@fish PowerManager]# ]
```

2. The installer launches a separate configuration program.
3. The script displays: Do you wish to use SSL to communicate with HP Power Manager?
To use the standard HTTP protocol for Web browser access to the Management Server, enter N. To use the Secure Sockets Layer (SSL), enter y.
4. The script displays: Please enter a port to use for web communications.
To use the standard TCP/IP port (80 for HTTP, 443 for SSL) with the selected protocol for Web browser access to the Management Server, press the **Enter** key. To use a non-standard port for browser access, enter a valid numerical value for the port number.
5. The script displays: Please select a serial port to search for a UPS device on.
If the serial cable from the UPS is connected to serial port /dev/ttyS0 on the computer, press the **Enter** key. If it is connected to another serial port, enter the number corresponding to that serial port from the displayed list.
If a UPS is discovered, the type of communications protocol and baud rate is displayed. If no UPS is detected, verify that the cable is connected securely from the serial port to the UPS and that the correct port was selected before trying again.
6. The script displays: Would you like to start HP Power Manager?
To start the HPPM Management Server, enter Y. If you do not want to start the Management Server now, enter n.

Installing the Remote Agent Using the Installation Script

To install the Remote Agent on a Linux system using the installation script:

1. Insert the Rack and Power Management Pack CD into the CD-ROM drive of the computer. From the console or a terminal window, go to the **HPPM/.Linux/Agent** subdirectory. Execute the following installation script:

```
./Setup
```

If the HPPM software has been downloaded from the HP website, follow the instructions to unpack the files. Locate the Linux Remote Agent installation script (**Setup**) and execute it as previously indicated.

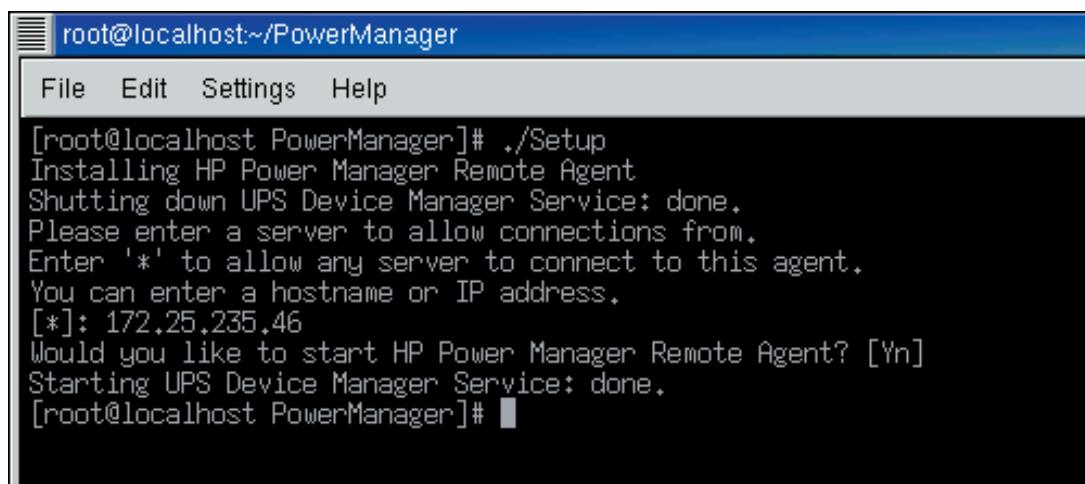
The script installs the Remote Agent component and requests information to configure the application. Default values or valid options are shown in brackets following each prompt.

2. The install launches a separate configuration program.
3. The script displays: Please enter a server to allow connections from.

For the most security, enter the host name or IP address of the Management Server. This configuration ensures only that particular Management Server executes commands and operating system shutdowns on the computer running the Remote Agent. If security is not a concern, leave this line blank and press the **Enter** key.

4. The script displays: Would you like to start HP Power Manager Remote Agent?

To start the HPPM Remote Agent, enter Y. If you do not want to start the Remote Agent now, enter n.



```
root@localhost:~/PowerManager
File Edit Settings Help
[root@localhost PowerManager]# ./Setup
Installing HP Power Manager Remote Agent
Shutting down UPS Device Manager Service: done.
Please enter a server to allow connections from.
Enter '*' to allow any server to connect to this agent.
You can enter a hostname or IP address.
[*]: 172.25.235.46
Would you like to start HP Power Manager Remote Agent? [Yn]
Starting UPS Device Manager Service: done.
[root@localhost PowerManager]#
```

Installing the Management Server Using the Silent Installation Method

NOTE: The HPPM Linux package (PowerManager-3.1-x.i586.rpm) requires that the compat-libstdc++-7.3-2.96.110.i386.rpm file install.

To install the Management Server on a Linux system using the silent installation method:

1. If you do not have the configuration .INI file, refer to the section, “Installation Overview,” in this chapter for instructions.

NOTE: The configuration .INI file is required for silent installations but is optional for upgrading.

2. Run `./Setup /s /f "<path>/DevManBE.ini"` to install silently. Replace `<path>` with the DevManBE.ini file location.

Installing the Remote Agent Using the Silent Installation Method

To install the Remote Agent on a Linux system using the silent installation method:

1. If you do not have the configuration .INI file, refer to the section, “Installation Overview,” in this chapter for instructions.

NOTE: The configuration .INI file is required for silent installations but is optional for upgrading.

2. Run `./Setup /s /f "<path>/DevManRA.ini"` to install silently. Replace `<path>` with the DevManRA.ini file location.

Reconfiguring Components on Linux Operating Systems

To reconfigure the Web connection, SSL, or communications port, run `/etc/init.d/DevMan setup`.

Installing Components on NetWare Operating Systems

The Remote Agent can be installed using a configuration module or the silent installation option on any supported NetWare operating system.

NOTE: If domain name server (DNS) is not being used, verify the host name and IP address are added to the hosts file (`sys:etc\hosts`).

Installing the Remote Agent Using the Configuration Module

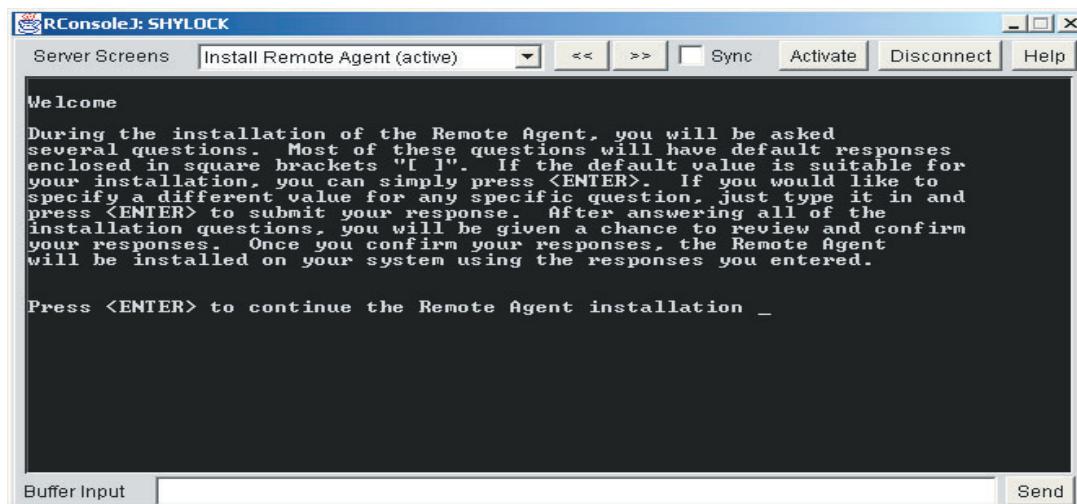
To install the Remote Agent on a NetWare system using the configuration module:

1. Insert the Rack and Power Management Pack CD into the CD-ROM drive of a computer. From the HPPM/.../NetWare/Agent subdirectory of the CD, copy the contents into a directory on the NetWare server.

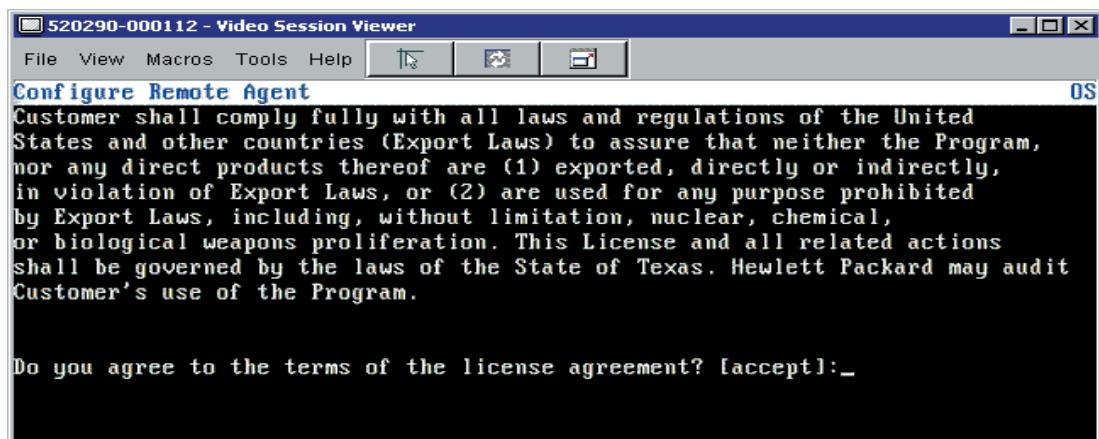
From the NetWare system console, load the configuration module (PMCONFIG.NLM) using the default path. For example, if the files were copied into a folder called HP on the SYS: volume, the module would be loaded as follows:

```
SYS:HP/PMCONFIG
```

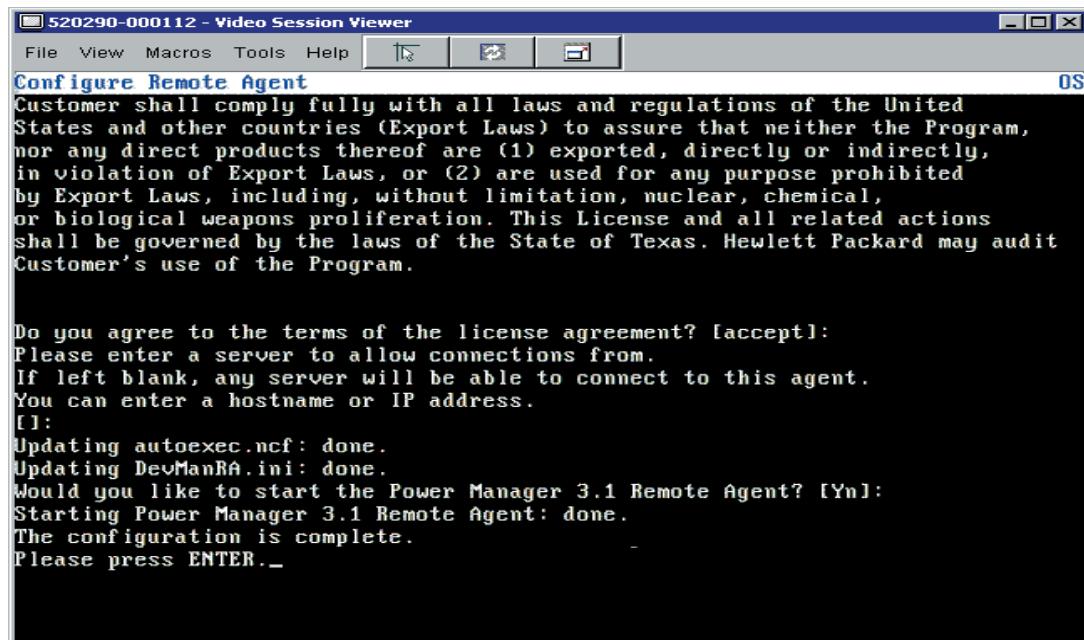
If the HPPM software has been downloaded from the HP website, follow the instructions to unpack the files. Copy the files to the NetWare server and load the configuration module as previously indicated. The module displays information about the configuration process.



2. Press the **Enter** key to continue the installation. The license agreement screen appears.



3. Press the **Enter** key to accept the license agreement.



4. The module displays: Enter the IP address of the Management Server.

For the most security, enter the host name or IP address of the Management Server. This feature allows only that particular Management Server to execute commands and operating system shutdowns on the computer running the Remote Agent. If security is not a concern, leave this line blank and press the **Enter** key.

5. The module displays: Is this correct?

Press the **Enter** key to verify the choice.

The installation module updates startup files with configuration information.

6. The module displays: The installation is complete.

Press the **Enter** key to close the installation module.

Uninstalling Components from Windows Systems

To remove HPPM from a Windows system:

1. Click **Start>Settings>Control Panel**.
2. Open **Add/Remove Programs**.
3. Select **HP Power Manager** or **HP Power Manager Remote Agent**, and click **Change/Remove**. The uninstall wizard is launched. Select **Remove Choicem**, and click **Next**.
4. Follow the prompts in the uninstall wizard to uninstall the software.

NOTE: Some files might remain following the uninstallation and can be removed manually.

Uninstalling Components from Linux Systems

To remove HPPM from a Linux system, execute the uninstall script (`Uninstall`).

NOTE: Some files might remain following the uninstallation and can be removed manually.

Uninstalling Components from NetWare Systems

To remove HPPM from a NetWare system, navigate to the directory into which HPPM was installed and load `PMCONFIG.NLM` with the `-u` option:

For example: `SYS:HPPM/PMCONFIG -u`

NOTE: Some files might remain following the uninstallation and can be removed manually.

Access and Navigation

Accessing HPPM

You can access HPPM in the following ways:

- Remotely through a Web browser
- Locally from the system tray icon in Windows

Web Browser

To access HPPM through a Web browser:

1. Launch a supported browser. The browser window appears.
2. In the Address field (Microsoft Internet Explorer) or the Location field (Mozilla), enter an IP address. Follow the examples below, where `hostname` is the IP address or the machine name of the computer on which the Management Server software component is installed.
 - If you installed the software to use the default port numbers of 80 (standard HTTP) or 443 (SSL), then enter one of the following:
`http://hostname`
`https://hostname`
 - If you installed the software to use a specific port number that is different from the defaults, then use the following example with the port number selected.
`http://hostname:1234/`
`https://hostname:1234/`

NOTE: If you are using a proxy server, you might need to add the server hosting HPPM to the No Proxy list of servers in the Internet settings for your browser. Refer to the browser help for more information about changing the configuration.

System Tray Icon

To access HPPM through the system tray in Windows:

1. Right-click the HPPM system tray icon on a computer with one of the HPPM components installed to display a context menu.
2. Select **Connect** to access HPPM.

Table 3-1: System Tray Icon Status

Icon	Status
	HPPM service/daemon is running. The agent and Management Server are communicating. UPS status is normal.
	HPPM service/daemon is not running.
	UPS issues a warning alarm.
	HPPM is not configured, the UPS is not connected, or the agent and Management Server are not communicating. UPS issues a critical alarm.

NOTE: If the icon appears, the Connect option is unavailable because the service is unavailable.

Regarding the Browser Security Alert

NOTE: The information in this section is only applicable if SSL is chosen during software configuration.

Secure browsing to HPPM requires the use of SSL. SSL is a protocol layer that lies between HTTP and TCP. It provides secure communication between a server and a client and is designed to provide privacy and message integrity. SSL is commonly used in Web-based transactions to authenticate the Web server, which indisputably identifies the server to the browser. SSL also provides an encrypted channel of communication between the server and the browser. This channel ensures integrity of the data between the Web server and the browser, so that data can neither be viewed nor modified while in transit. HPPM uses a system generated and unique key.

An integral part of SSL is a security certificate, which identifies the HPPM Management Server. If your browser displays a security alert when browsing to HPPM, it can be for one of several reasons:

- The certificate is untrusted, meaning it was signed by a certifying authority that is unknown to your browser.
- The certificate has expired or is not yet valid. This condition can occur if you issue your own certificate and it has expired.
- The name on the certificate does not match the name of the site in the browser address field.

Establishing a Secure Session for Internet Explorer

The first time you browse to HPPM, the Secure Session screen appears. To ensure a secure connection to HPPM, verify that you are browsing to the desired Management Server.

1. Click **View Certificate**.
2. Verify that the name in the Issued To field is the name of your Management Server.
3. Perform any other steps necessary to verify the identity of the Management Server.



CAUTION: If you are not sure this is the desired Management Server, do not proceed. Importing a certificate from an unauthorized server relays your login credentials to that unauthorized server. Exit the certificate window and contact the HPPM administrator.

After verifying the Management Server, do one of the following:

- Import the certificate and proceed.
 - a. Click **View Certificate**. The certificate appears.
 - b. Click **Install Certificate**. The Certificate Import Wizard runs.
 - c. Click **Next**. The Certificate Store screen appears.
 - d. Select **Automatically select the certificate store based on the type of certificate**, and click **Next**.
 - e. Click **Finish**. A message appears, asking for verification of the root store.
 - f. Click **Yes**.
- Proceed without importing the certificate by clicking **Yes** at the Security Alert window. You continue to receive the Security Alert each time you log in until you import the certificate. Your data is still encrypted.
- Exit and import the certificate into your browser from a file provided by the administrator.
 - a. Click **No** at the Security Alert window.
 - b. Obtain an exported HPPM server certificate file from the administrator.

NOTE: If using Internet Explorer, you can manually import the file into the browser by clicking **Tools>Internet Options>Content>Certificates>Import**.

Establishing a Secure Session for Mozilla

The first time you browse to HPPM, the Secure Session screen appears. To ensure a secure connection to HPPM, verify that you are browsing to the desired Management Server.

1. Click **Examine Certificate**.
2. Verify that the name in the Issued To field is the name or IP Address of your Management Server.
3. Perform any other steps necessary to verify the identity of the Management Server.
4. After verifying the Management Server, do one of the following:
 - a. Click on either **Accept this certificate permanently** or **Accept this certificate temporally for this session**.
 - b. Click **OK**.

NOTE: If using Mozilla, manually import the file into your browser by clicking **File>Preferences>Certificates>Privacy & Security>Manage Certificates>Authorities>Import**.

Logging into HPPM

Before using HPPM, log in with a user name and password. The first time you log in, enter `admin` as the user name, and enter `admin` as the password. Click **Submit Login** to log in. After you are logged in, you can change your password. For more information, refer to the section, “My Account Menu Option,” in Chapter 6.

NOTE: Passwords are case-sensitive.

The screenshot shows a login form titled "HP Power Manager". It has two input fields: "Login Name" containing "admin" and "Password" (the field is empty). Below the fields is a "Submit Login" button.

After a successful login, the HPPM **Overview** screen under the Home tab appears. For more information on the Overview screen, refer to the section, “Overview Menu Option,” in Chapter 4.

Navigating HPPM

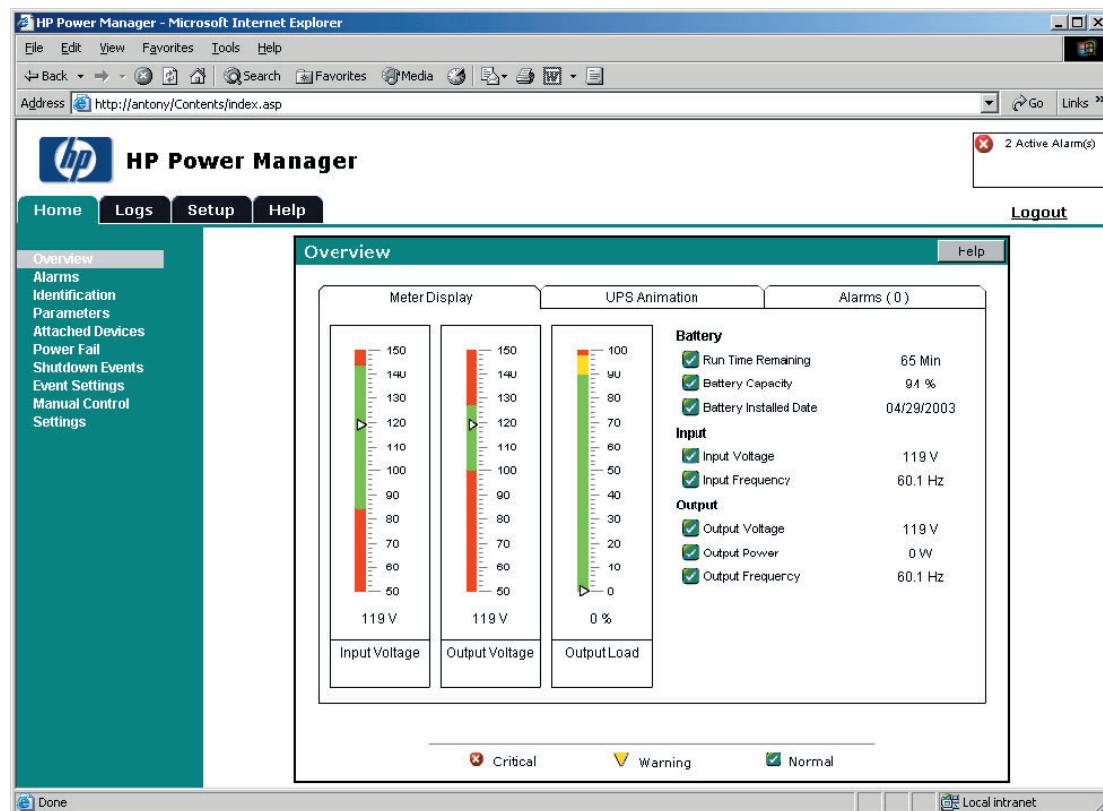
The HPPM interface is divided into three frames:

- **Top frame**—Contains the HP logo, Home, Logs, Setup, and Help tabs, as well as a Logout hyperlink.
 - Click the **HP logo** to access the HP website.
 - Click the **Home** tab to see the menu options for configuring and operating the software. For more information, refer to the section, “Home Tab,” in Chapter 4.
 - Click the **Logs** tab to see the menu options for displaying UPS data logs. For more information, refer to the section, “Logs Tab,” in Chapter 5.
 - Click the **Setup** tab to see the menu options for setting up and modifying user accounts. For more information, refer to the section, “Setup Tab,” in Chapter 6.
 - Click the **Help** tab to access the software help section. For more information, refer to the section, “Help Tab,” in Chapter 6.
 - Click the **Logout** hyperlink to log out of HPPM.

NOTE: An indicator in the upper right-hand corner of the screen displays information about the UPS, such as the number of active alarms or whether or not the UPS is connected.

- **Left navigation frame**—Contains a list of menu options on the left side of the screen. The menu is dynamic, and the menu options change depending on the tab selected and your access rights.
- **Main frame**—Contains the various screens of HPPM based on the menu option selected. The screens are discussed in detail later in this guide.

NOTE: The Overview screen appears in the main frame the first time you log in to HPPM. The screen might vary depending on the UPS model connected.



Configuration and Operation

Before HPPM can manage attached devices, the settings must be properly configured. To view a list of menu options for configuring HPPM settings, click the **Home** tab in the top frame of the HPPM interface. The available menu options appear in the left navigation frame.

Home Tab

Menu options listed under the Home tab include:

- Overview
- Alarms
- Identification
- Parameters
- Attached Devices
- Power Fail
- Shutdown Events
- Event Settings
- Manual Control
- Settings

Overview Menu Option

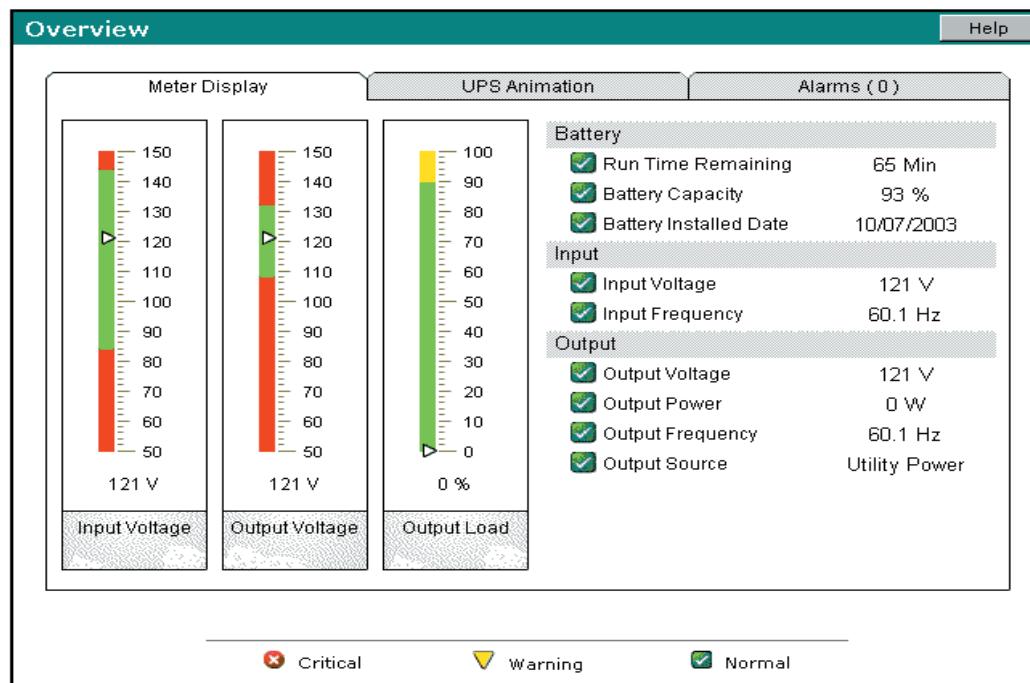
Click **Overview** in the left navigation frame to display the Overview screen. This screen displays overall views of the UPS status and contains the following tabs:

- Meter Display
- UPS Animation
- Alarms (*x*)

NOTE: The variable *x* indicates the number of active alarms. For example, Alarms (2) means that the UPS has two active alarms.

Meter Display Tab

NOTE: Depending on the specific UPS model, the Meter Display screen might vary. The screen shown is only an example.



Under the Meter Display tab, the status of the UPS is shown in graphical and text format. Input Voltage, Output Voltage, and Output Load information is displayed graphically on the left side of the screen, with the colors on the meter representing the current state of the UPS.

Table 4-1: Meter Colors

Color	Device Status
Green	Normal
Yellow	Warning
Red	Critical

Battery, Input, and Output parameters are listed as text on the right side of the screen. A status icon indicates the current state of each parameter.

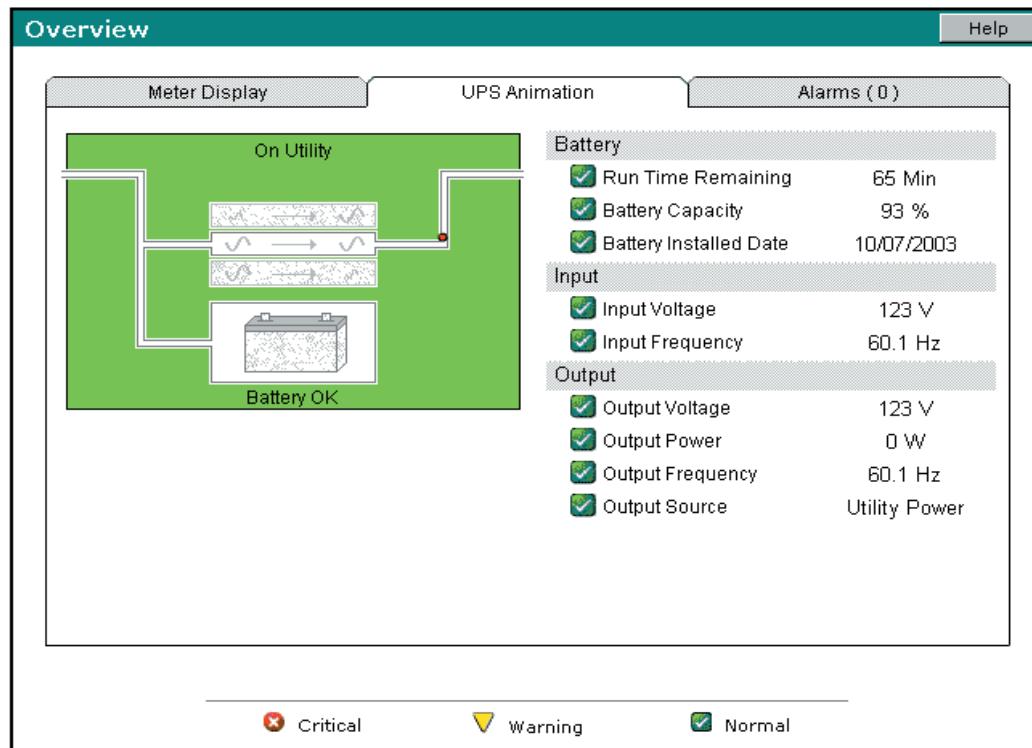
Table 4-2: Status Icons

Icon	Parameter Status
	Normal
	Warning
	Critical

UPS Animation Tab

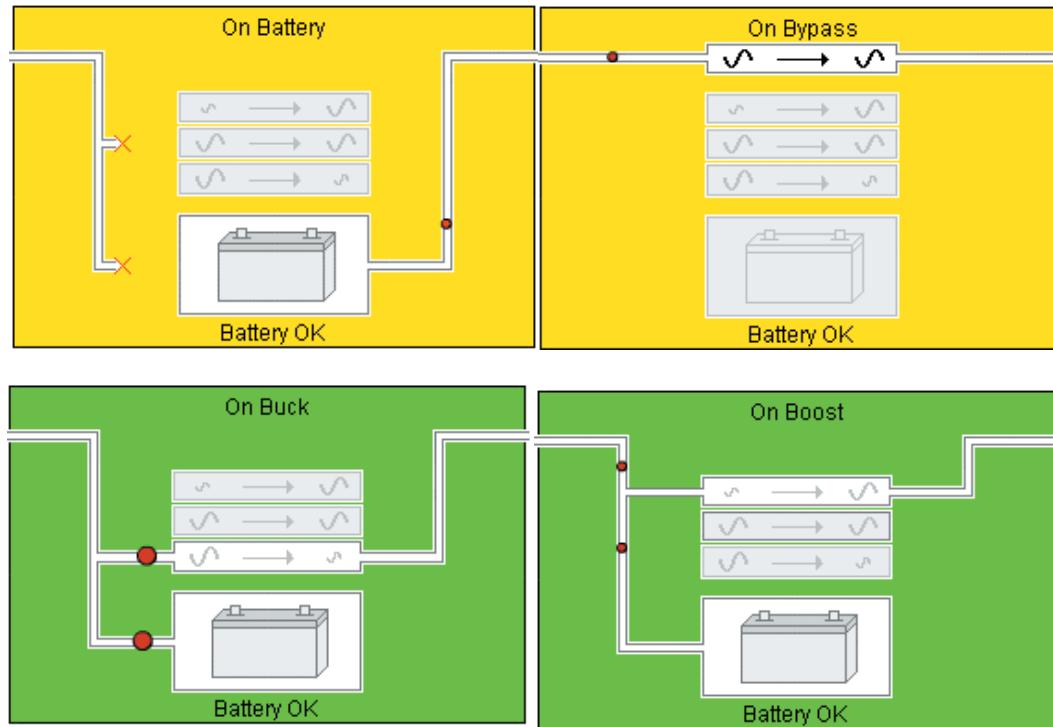
The UPS Animation tab provides an animated view of the flow of power into and out of the UPS. Battery, Input, and Output parameters are listed as text on the right side of the screen. A status icon next to each parameter indicates the current state of the parameter (Normal, Warning, or Critical).

The animation graphic changes based on the current UPS status. The following screen is an example of the UPS On Utility power.



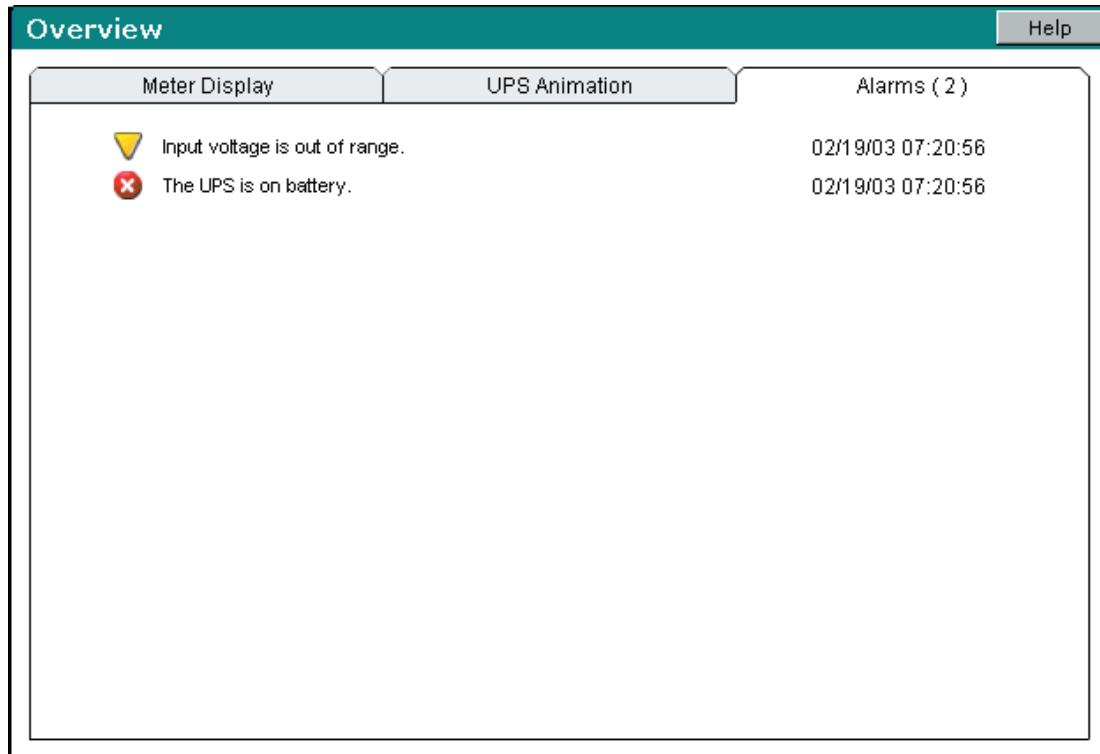
If the UPS goes into Battery, Bypass, Buck, or Boost modes, the graphic on the left side of the screen changes to one of the following animations.

NOTE: Depending on the specific UPS model, the animations might or might not be supported. The screen shown is only an example.



Alarms Tab

The Alarms (*x*) tab displays a list of active alarms for the UPS, where *x* is the current number of active alarms. Click an alarm to see a description of the alarm. If there are no active alarms, the screen indicates No Active Alarms. A status icon next to each alarm indicates the severity of the alarm (⚠ Warning or ✖ Critical).



Alarms Menu Option

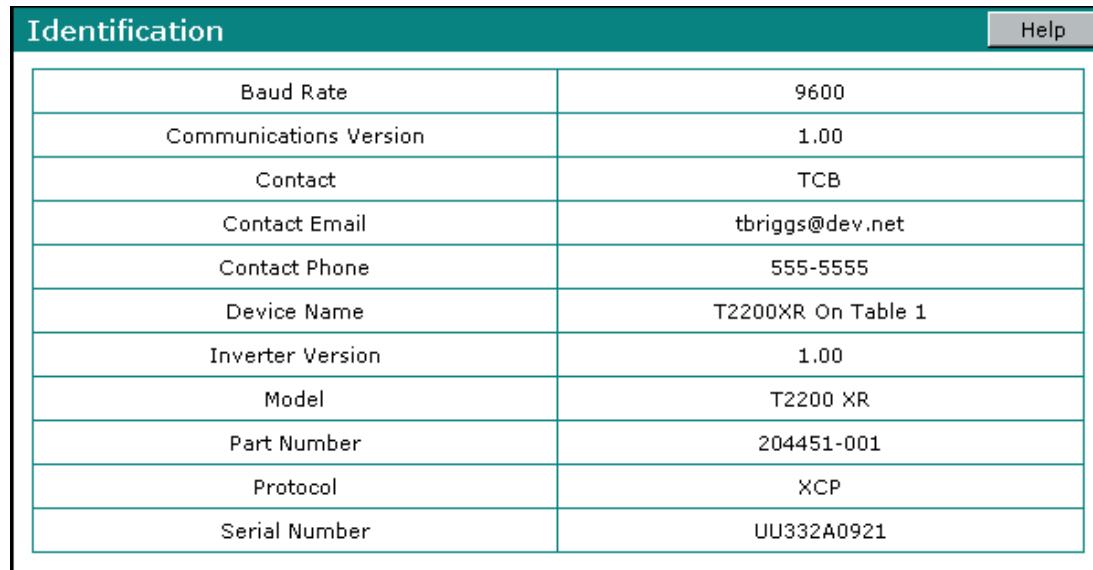
Click **Alarms** in the left navigation frame to display the Alarms screen. This screen lists all possible alarms (active and normal) specific for each UPS model. The active alarms are listed at the top of the screen with the date and time on which the alarm most recently occurred. Click an active alarm to see a description of the alarm. A status icon next to each alarm indicates the current state of the alarm (Normal, Warning, or Critical).

Description of Alarm	Date / Time
On Battery	February 19 2003 at 07:07:39
Input Out of Range	February 19 2003 at 07:07:39
Battery Discharged	
Battery Failure	
EPO Initiated	
Internal Failure	
Loss of Redundancy	
Output Out of Range	
Overload	
Shutdown Imminent	
Site Wiring Fault	
Startup Pending	
Temperature Out of Range	

Identification Menu Option

Click **Identification** in the left navigation frame to display the Identification screen. This screen displays specific device and contact information.

NOTE: Depending on the specific UPS model, the Identification screen might vary. The screen shown is only an example.



The screenshot shows a table titled "Identification" with a "Help" button in the top right corner. The table contains the following data:

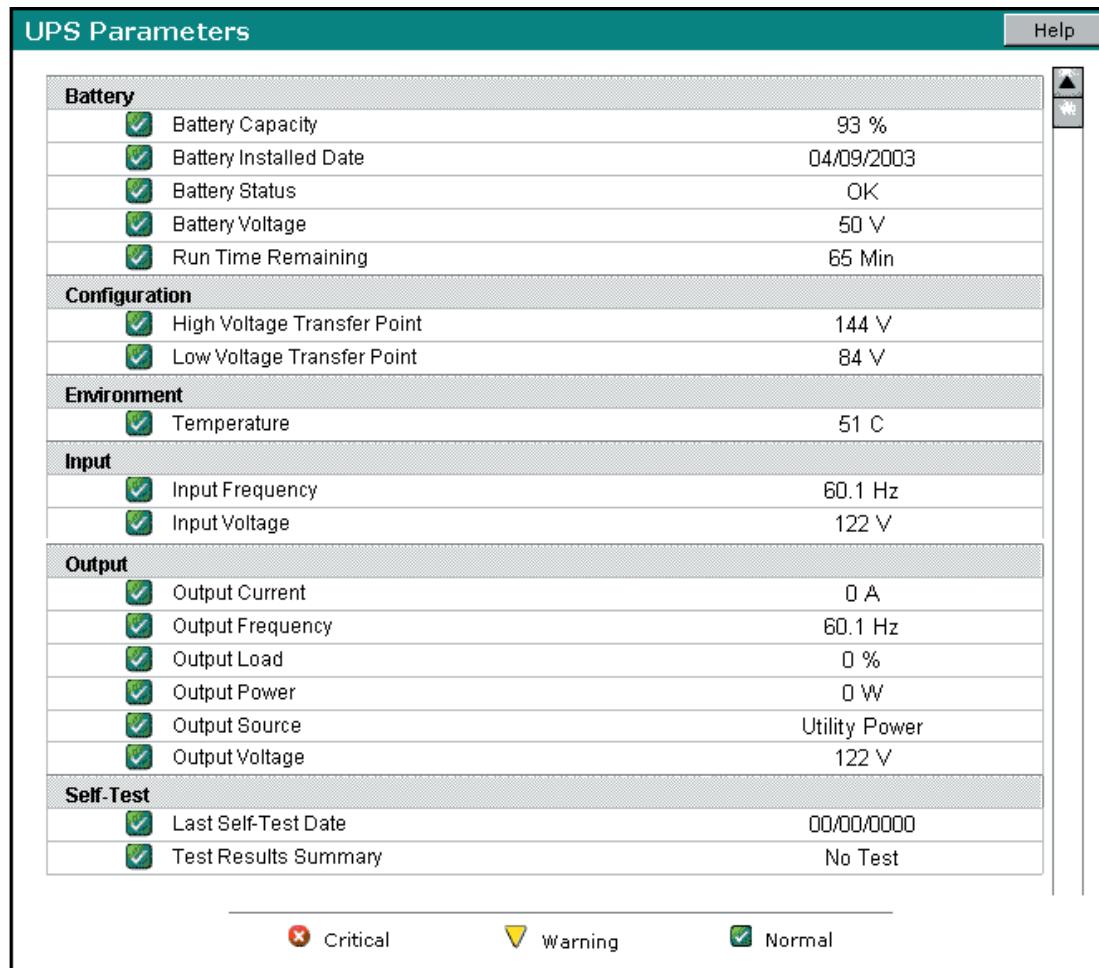
Baud Rate	9600
Communications Version	1.00
Contact	TCB
Contact Email	tbriggs@dev.net
Contact Phone	555-5555
Device Name	T2200XR On Table 1
Inverter Version	1.00
Model	T2200 XR
Part Number	204451-001
Protocol	XCP
Serial Number	UU332A0921

You can enter or change the contact information and device name on the Settings screen. For more information, refer to the section, “Settings Menu Option,” in this chapter. Only users with administrator rights can enter this information.

Parameters Menu Option

Click **Parameters** in the left navigation frame to display the UPS Parameters screen. This screen displays the available UPS parameter values. A status icon next to each parameter indicates the current state of the parameter ( Normal,  Warning, or  Critical).

NOTE: Depending on the specific UPS model, the UPS Parameters screen might vary. The screen shown is only an example.



The screenshot shows the 'UPS Parameters' screen with the following data:

Battery	
 Battery Capacity	93 %
 Battery Installed Date	04/09/2003
 Battery Status	OK
 Battery Voltage	50 V
 Run Time Remaining	65 Min
Configuration	
 High Voltage Transfer Point	144 V
 Low Voltage Transfer Point	84 V
Environment	
 Temperature	51 C
Input	
 Input Frequency	60.1 Hz
 Input Voltage	122 V
Output	
 Output Current	0 A
 Output Frequency	60.1 Hz
 Output Load	0 %
 Output Power	0 W
 Output Source	Utility Power
 Output Voltage	122 V
Self-Test	
 Last Self-Test Date	00/00/0000
 Test Results Summary	No Test

At the bottom, there are three status indicators:  Critical,  Warning, and  Normal.

Battery Self-Test Results Summary

- **In Progress**—The battery self-test is in progress.
- **Passed**—The battery self-test has completed successfully.
- **Test Aborted**—The battery self-test was not performed at this time because of one of the following:
 - The UPS is already On Battery.
 - The battery is not presently charged.
 - In some implementations, the battery self-test is scheduled and begins when the batteries are fully charged.
- **Test Failed**—A Bad Battery is detected, or the battery self-test failed.
- **Test Scheduled**—The battery self-test was not performed at this time but will be performed when the system has the proper conditions.
- **Battery Disconnect**—All batteries have been disconnected.
- **Battery Not Installed**—No batteries were connected to the system at last power up.
- **Unknown**—Unable to determine the status of the last test.

NOTE: Battery self-test results are cleared after the UPS is reset.

Attached Devices Menu Option

NOTE: The link to this screen is not displayed if you do not have administrative rights.

Click **Attached Devices** in the left navigation frame to display the Attached Devices screen.

NOTE: Depending on the specific UPS model, load segments and UPS Runtime might not be supported. The screen shown is only an example.

Attached Devices			Add New Device	Refresh Page	Help
UPS Runtime: 40 Min					
	Entire UPS	<input type="button" value="Cycle"/>	Total time to shut down Entire UPS:		2 Min
	Load 1	Command Procedure		Estimated Time Required To	Total Time
				Execute Command	
	Management Server (Win 2003)			0 Min	2 Min
	Remote Agent (Win2K)			0 Min	1 Min
<input type="button" value="Cycle"/>	Total time to shut down Load Segment 1:				2 Min
	Load 2	Command Procedure		Estimated Time Required To	Total Time
				Execute Command	
	Remote agent (Win2K)			0 Min	1 Min
		Total time to shut down Load Segment 2:			1 Min

Table 4-3: Attached Devices Status Icons

Icon	Status
	Agent is communicating with the Management Server, and the versions are compatible.
	Agent version is not compatible. Upgrade agent.
	Agent is not communicating with the Management Server. For more information, refer to Chapter 7, "Troubleshooting."

This screen enables you to:

- View attached devices and load segment power status
- Control load segments (turn off, on, or cycle power)
- Add or delete attached devices
- Edit attached device configuration

The estimated UPS runtime appears at the top of the screen. The total time required to shut down the entire UPS is recalculated when attached devices are added, deleted, or modified. This time is determined by totaling the time required to shut down each device on the UPS.

Controlling a Load Segment

To control a load segment, do one of the following:

- Click **Off** to shut down a load segment.
- Click **On** to turn on a load segment.
- Click **Cycle** to gracefully shut down and turn on a load segment.

NOTE: Off and On are not available for the load segment to which the Management Server is attached.

Adding an Attached Device

To add an attached device:

1. Click **Add New Device** on the Attached Devices screen. The Add Device screen appears.

NOTE: Depending on the specific UPS model, UPS Runtime might not be supported. The screen shown is only an example.

Computer Device Information		Estimated Time Required To	
Host Name or IP Address	192.168.123.135	Shut Down OS	1 Min
<input type="checkbox"/> Run Command Procedure (SDScript)?		Execute Command	1 Min

2. Enter the device name or description in the Device Description/Name field.

3. Select the type of device (**Remote Agent** or **Other Device**) in the Device Type dropdown box.

NOTE: Select the **Other Device** option for any unmanaged device, such as a router or hub. Unmanaged devices are either on or off and are not shut down gracefully.

4. If output power is supplied by controllable load segments, select the load segment to which the device is attached in the Load Segment dropdown box.

NOTE: If output power is not supplied by load segments, the Load Segment dropdown box does not display on the screen.

5. If the device type is Remote Agent, enter the host name or IP address in the Host Name or IP Address field.
6. If the device type is Remote Agent or Management Server, enter the estimated time required to shut down the server in the Shut Down OS field.
7. If the command procedure SDScript is run at shutdown (such as running a script to back up files to tape or to shutdown the database):
 - Select **Run Command Procedure (SDScript)?** at shutdown.
 - Edit the SDScript file in the HPPM program folder.
 - Enter the estimated time required to complete the procedure in the Execute Command field.
8. Click **Save Changes** to save the information.
9. The newly added device displays under the specific load segment. The status icon in front of the device link indicates the attached device agent is communicating with the Management Server, and the versions are compatible. For a detailed description of the agent status, refer to the section, “System Tray Icon,” in Chapter 3.

Editing or Deleting an Attached Device

To edit information for an attached device:

1. Click the link for the device you want to edit on the Attached Devices screen. The Edit/Delete Device screen appears.
2. Enter the device name or description in the Device Description/Name field.
3. Select the type of device (Management Server, Remote Agent, or other device) in the Device Type dropdown box.
4. If output power is supplied by controllable load segments, select the load segment to which the device is attached in the Load Segment dropdown box.

NOTE: If output power is not supplied by load segments, the Load Segment dropdown box does not display on the screen.

5. If the device type is Remote Agent, enter the host name or IP address in the Host Name or IP Address field.
6. If the device type is Remote Agent or Management Server, enter the estimated time required to shut down the server in the Shut Down OS field.

7. If the command procedure SDScript is run at shutdown (such as running a script to back up files to tape or to shutdown the database):
 - Select **Run Command Procedure (SDScript)?** at shutdown.
 - Edit the SDScript file in the HPPM program folder.
 - Enter the estimated time required to complete the procedure in the Execute Command field.
8. Click **Save Changes** to save the information, or click **Delete Device** to delete the device.
9. The newly added device displays under the specific load segment. The status icon in front of the device link indicates the attached device agent is communicating with the Management Server, and the versions are compatible. For detailed descriptions of the agent status, refer to the section, “System Tray Icon,” in Chapter 3.

NOTE: The Delete Device button only displays for devices other than the Management Server.

NOTE: Depending on the specific UPS model, UPS Runtime might not be supported. The screen shown is only an example.

Edit/Delete Device

UPS Runtime: 170 Min

Device Description	Device Type	Version
Palau	Remote Agent	N/A

Computer Device Information

Host Name or IP Address	192.168.123.50	Shut Down OS	1 Min
<input type="checkbox"/> Run Command Procedure (SDScript)?		Execute Command	0 Min

Save Changes **Delete Device**

Power Fail Menu Option

NOTE: The link to this screen is not displayed if you do not have administrative rights.

Click **Power Fail** in the left navigation frame to display the Power Fail Settings screen. This screen enables you to configure how the system should shut down attached devices in the event of a power failure.

NOTE: Depending on the specific UPS model, load segments and UPS Runtime might not be supported. The screen shown is only an example.

Power Fail Settings							Help
UPS Runtime: 40 Min							
Load	Attached Devices	Required Shutdown Time	Initiate Shutdown			Restart Delay (Seconds)	
			After Delay (in Minutes)	At Runtime Limit (maximize runtime)	Never (on low battery)		
Load 1	Management Server (Win 2003) <input checked="" type="checkbox"/> Remote Agent (Win2K)	2 Min	<input checked="" type="radio"/> 5 <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	
Shutdown on low battery?				<input checked="" type="checkbox"/> After 0 Minutes			
Load	Attached Devices	Required Shutdown Time	Initiate Shutdown			Restart Delay (Seconds)	
			After Delay (in Minutes)	When Management Server Shuts Down			
Load 2	Remote agent (Win2K)	1 Min	<input type="radio"/> 5 <input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	0	
<input type="button" value="Save Changes"/> <input type="button" value="Refresh Page"/>							

Configuring the Shutdown Delay for the Management Server Load Segment

To configure the shutdown delay for the Management Server load segment:

1. Configure the Initiate Shutdown options.
 - a. Select **After Delay (in Minutes)** to specify a time delay before the load segment shuts down. Enter the amount of time that HPPM should wait before initiating the shutdown.

NOTE: The shutdown delay for the Management Server load segment must be as long as or longer than the shutdown delay for all other load segments.

- b. Select **At Runtime Limit (maximize runtime)** to maximize the UPS runtime before shutdown. HPPM initiates the load segment shutdown when the value in the UPS Runtime field reaches required shutdown time.
- c. The following matrix shows the possible settings for the Never (on low battery) and Shutdown on low battery? options.

	Shutdown on low battery? Selected	Shutdown on low battery? Not Selected
Never (on low battery) Selected	The system shuts down only when it receives a low battery alarm from the UPS based on the time set in the low battery delay minutes.	The system does not shut down even in a low battery event. This results in the ungraceful shutdown of the operating system.
Never (on low battery) Not Selected	The system shuts down when the timer or runtime expires, unless the UPS battery becomes low. If a low battery event occurs, the system shuts down based on the time set in the low battery delay minutes.	The system shuts down when the timer or runtime expires. If a low battery alarm is generated, it is ignored.

2. Select **Shutdown on low battery?** and optionally enter the amount of delay in minutes. If the UPS runtime expires or a low battery event occurs, shutdown begins.
3. Enter the amount of time to wait before restarting the Management Server load segment in the Restart Delay (Seconds) field.
4. If you want to edit Management Server information, click the link in the Attached Devices column.

The Edit/Delete Device screen appears. For more information, refer to the section, “Editing or Deleting an Attached Device,” in this chapter.
5. If you want to change the shutdown time for the Management Server, click the link in the Required Shutdown Time column.

The Attached Devices screen appears. For more information, refer to the section, “Adding an Attached Device,” in this chapter.
6. Click **Save Changes** to save the information.

IMPORTANT: It is not recommended to use the Runtime Limit option for the HP UPS R3000 XR or R12000 XR models.

Configuring Shutdown for All Other Load Segments

To configure load segment shutdown for other attached devices:

1. Select **After Delay (in Minutes)** to specify a time delay before the attached device shuts down. Enter the amount of time for the delay.
2. Select **When Management Server Shuts Down** to shut down the attached device load segment at the same time the Management Server shuts down.
3. Enter the amount of time to wait before restarting the attached device in the **Restart Delay (Seconds)** field.
4. If you want to edit the device information, click the link in the Attached Devices column. The Edit/Delete Device screen appears. For more information, refer to the section, “Editing or Deleting an Attached Device,” in this chapter.
5. If you want to change the shutdown time for the device, click the link in the Required Shutdown Time column. The Attached Devices screen appears. For more information, refer to the section, “Adding an Attached Device,” in this chapter.
6. Click **Save Changes** to save the information.

Shutdown Events Menu Option

Click **Shutdown Events** in the left navigation frame to display the Shutdown Events screen. In addition to the typical events (such as power fail events) causing shutdowns, this screen enables you to configure other events for shutdown.

When a shutdown event occurs, HPPM gracefully shuts down all attached devices and UPS load segments.

NOTE: The list of events on this screen might vary depending on the UPS.

To specify an event for shutdown:

1. Select **Shutdown?** for the event.
2. Enter the number of minutes to wait between the time the event occurs and the time the device shuts down in the **Delay (Minutes)** field.
3. Click **Save Changes** to save the information.

Shutdown Events

Help

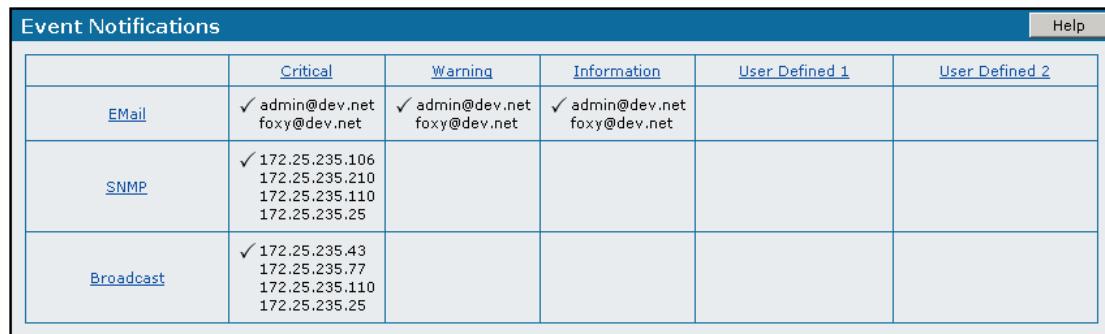
Event	Shutdown?	Delay (Minutes)
Battery Discharged	<input type="checkbox"/>	0
Battery Failure	<input checked="" type="checkbox"/>	3
Fan Failure	<input type="checkbox"/>	0
Input Out of Range	<input checked="" type="checkbox"/>	5
Internal Failure	<input type="checkbox"/>	0
Overload	<input type="checkbox"/>	0
Shutdown Imminent	<input type="checkbox"/>	0
Site Wiring Fault	<input type="checkbox"/>	0
Temperature Out of Range	<input type="checkbox"/>	0

Save Changes

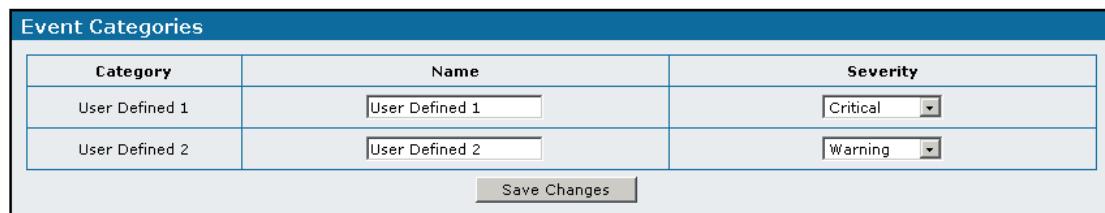
Event Settings Menu Option

NOTE: The link to this screen is not displayed if you do not have administrative rights.

Click **Event Settings** in the left navigation frame. The screen that appears contains the Event Notifications and Event Categories tables.



	Critical	Warning	Information	User Defined 1	User Defined 2
EMail	✓ admin@dev.net foxy@dev.net	✓ admin@dev.net foxy@dev.net	✓ admin@dev.net foxy@dev.net		
SNMP	✓ 172.25.235.106 172.25.235.210 172.25.235.110 172.25.235.25				
Broadcast	✓ 172.25.235.43 172.25.235.77 172.25.235.110 172.25.235.25				



Category	Name	Severity
User Defined 1	User Defined 1	Critical
User Defined 2	User Defined 2	Warning

The Event Notifications table enables you to define the event notifications (EMail, SNMP, or Broadcast) HPPM takes for each event by category (Critical, Warning, Information, User Defined 1, or User Defined 2).

NOTE: You must define the severity of each event according to your environment.

The Event Categories table enables you to create up to two additional event categories, which can be used to define the event notifications. (The added categories are displayed as column headings on the Event Notifications table and Event Severities screen.)

Creating User-Defined Event Categories

Creating user-defined categories enables you to categorize alarms so that specific alerts are sent to a certain groups of people. To create a user-defined event category:

1. In the Event Categories table on the main screen, enter the name of the new category in the Name field.
2. Select the SNMP severity level of the new category in the Severity dropdown box.
3. Click **Save Changes** to save the added information. The added category appears as a column heading on the Event Notifications table and Event Severities screen.

Event Categories		
Category	Name	Severity
User Defined 1	User Defined 1	Critical
User Defined 2	User Defined 2	Warning
Save Changes		

Categorizing Individual Events by Severity

To designate a category for an event:

1. In the Event Notifications table on the main screen, click any of the category column heading links (Critical, Warning, Information, User Defined 1, or User Defined 2).

Event Notifications						Help
	Critical	Warning	Information	User Defined 1	User Defined 2	
EMail						
SNMP						
Broadcast						

The Event Severities screen appears with the events listed in the Event column.

2. Select the radio button for the category into which each event should be placed.

3. Click **Save Changes** to save the information.

Event Severities							Help
Event	Critical	Warning	Information	User Defined 1	User Defined 2	None	
Temperature Out of Range	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>				
Input Out of Range	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>				
Overload	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shutdown Imminent	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Battery Failure	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Battery Low	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>				
Battery Discharged	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On Battery	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internal Failure	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Site Wiring Fault	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manual Load Dumped	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Save Changes

Selecting Notification Actions for Events by Category

You can specify an event notification by clicking one of the event notification links (EMail, SNMP, or Broadcast) on the left side of the Event Notifications table on the main screen.

Setting Up E-mail Notifications

To set up the software to send an e-mail notification in response to an event in a specific category:

1. Click the **EMail** link on the Event Notifications table in the main screen. The EMail Setup screen appears.
2. Enter the mail server IP address or host name in the SMTP Server field.
3. Enter the e-mail address that HPPM marks messages as being sent from in the SMTP From Address field.
4. Select the **Enabled** checkbox to indicate that e-mail notifications are sent for events in each category (Critical, Warning, Information, User Defined 1, and User Defined 2).
5. Enter up to six e-mail addresses in the EMail Address(es) field for the persons who should receive e-mail notifications of events that occur in each category.

6. Enter the amount of time to delay before the e-mail is sent in the Delay (seconds) field.

NOTE: If the event clears before the delay time has expired, then the e-mail is not sent.

7. Click **Save Changes** to save the information.

The screenshot shows the 'EMail Setup' dialog box. At the top, there is a section titled 'EMail Server Setup' with fields for 'SMTP Server' (172.25.235.127) and 'SMTP From Address' (admin@dev.net). Below this is a table for event notifications:

Enabled	Event	EMail Address(es)		Delay (seconds)
<input checked="" type="checkbox"/>	Critical	admin@dev.net	foxy@dev.net	10
<input checked="" type="checkbox"/>	Warning	admin@dev.net	foxy@dev.net	10
<input checked="" type="checkbox"/>	Information	admin@dev.net	foxy@dev.net	10
<input type="checkbox"/>	User Defined 1			10
<input type="checkbox"/>	User Defined 2			10

At the bottom right of the dialog box is a 'Save Changes' button.

Setting Up SNMP Trap Notifications

To set up the software to send an SNMP trap notification in response to an event in a specific category:

1. Click the **SNMP** link on the Event Notifications table in the main screen. The SNMP Setup screen appears.
2. Enter the SNMP trap community string in the Trap Community String field (public is the default string).
3. Select the **Enabled** checkbox to indicate that SNMP trap notifications are sent for events in each category (Critical, Warning, Information, User Defined 1, and User Defined 2).

4. Enter up to six trap recipients in the SNMP Address(es) field for the computers that receive SNMP trap notifications of events that occur in each category.
5. Enter the amount of time to delay before the trap is sent in the Delay (seconds) field.

NOTE: If the event clears before the delay time has expired, the SNMP trap is not sent.

6. Click **Save Changes** to save the information.

NOTE: For more information on using SNMP to send traps to Insight Manager 7, refer to Appendix B of this guide.

SNMP Setup				
		Trap Community String		Help
		public		
Enabled	Event	SNMP Address(es)		Delay (seconds)
<input checked="" type="checkbox"/>	Critical	172.25.234.88		10
<input checked="" type="checkbox"/>	Warning	172.25.234.88		10
<input type="checkbox"/>	Information			10
<input type="checkbox"/>	User Defined 1			10
<input type="checkbox"/>	User Defined 2			10

Save Changes

Setting Up Broadcasts

To set up the software to send a broadcast notification in response to an event in a specific category:

1. Click the **Broadcast** link on the Event Notifications table in the main screen. The Broadcast Setup screen appears.
2. Select the **Enabled** checkbox to indicate that broadcast notifications are sent for events in each category (Critical, Warning, Information, User Defined 1, and User Defined 2).
3. Enter up to six broadcast recipients in the Broadcast Address(es) field for the persons who should receive broadcast notifications of events that occur in each category. The broadcast recipient can be an IP address, user name, computer name, or messaging name.

NOTE: If the recipient is a computer name that contains spaces, the name must be enclosed in quotation marks.

4. Enter the amount of time to delay before the broadcast is sent in the Delay (seconds) field.

NOTE: If the event clears before the delay time has expired, the broadcast is not sent.

5. Click **Save Changes** to save the information.

IMPORTANT: Any computer running Windows and sending or receiving broadcasts must have the Messenger service enabled. The Messenger service can be accessed from the Services option in the Administrative Tools section of the Control Panel. The Messenger service is turned off by default in Windows Server 2003.

IMPORTANT: Any computer running Linux that is sending or receiving broadcasts must have the Samba packages installed, configured, and running. If the computer running Linux is to receive broadcasts, Samba must be set to display the received message by adding a message command statement to the Global Settings section of the SMB.CONF file, such as the following:

```
message command = /bin/csh -c 'cat %s | wall; rm %s' &
```

This statement sets Samba to route the broadcast message to the wall command, which displays the message on the system (either in a terminal window, at the console, or in a pop-up message, depending on the display environment), then delete the message. The Samba processes must be restarted after editing the SMB.CONF file to enable the changes. For more information, refer to the Samba documentation at <http://www.samba.org>.

In addition, for a Linux Management Server to send broadcasts to either Windows or Linux systems (or both), entries must be added to the /etc/hosts file on the Management Server for each host name to which it broadcasts.

For example, to broadcast from a Linux Management Server to a Windows workstation named “george” at IP address 143.85.41.121, add the following line to the hosts file:

```
143.85.41.121      george
```

Broadcast Setup

Help

Enabled	Event	Broadcast Hostname(s)/IP Address(es)		Delay (seconds)
<input checked="" type="checkbox"/>	Critical	buba 192.168.123.135	RAMS	5
<input checked="" type="checkbox"/>	Warning	buba	192.168.123.121	10
<input checked="" type="checkbox"/>	Information	Shylock		3
<input type="checkbox"/>	User Defined 1			10
<input type="checkbox"/>	User Defined 2			10

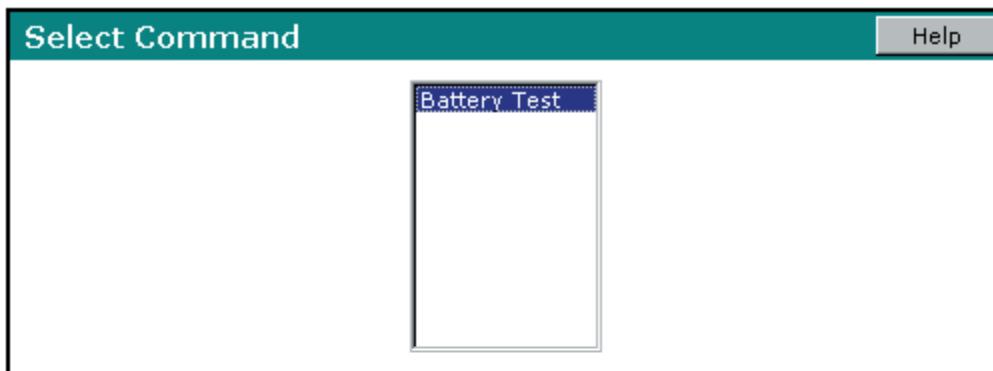
Save Changes

Manual Control Menu Option

NOTE: The link to this screen is not displayed if you do not have administrative rights or if the UPS does not support any control commands.

Click **Manual Control** in the left navigation frame. The screen that displays contains the Select Command and Execute Command boxes. These boxes enable you to select and execute UPS commands manually.

NOTE: The available list of controls is dependent on the controls supported by the specific UPS. The screen shown is only an example.



The screenshot shows a configuration dialog for the "Battery Test" command. The title bar says "Execute Battery Test". The dialog is divided into three sections: a parameter table, a notes area, and a command button.

Parameter	Value	Notes
Duration In Seconds	<input type="text"/>	Enter a number from 1 to 255.

Below the table is a large "Execute Command" button.

Executing the Battery Test Command

To run a manual test on the UPS battery:

1. Select **Battery Test** in the Select Command box. The Execute Battery Test box appears.
2. Enter the amount of time that the device runs on battery while running the test in the Duration In Seconds field.
3. Click **Execute Command** to execute the control command and start the test. The results of the test are on the UPS Parameters screen in the Test Results Summary field, and a log entry is created in the Application Log. For more information on this screen, refer to the section, “Parameters Menu Option,” in this chapter.

IMPORTANT: Do not run a battery test while the UPS is On Battery.

NOTE: Depending on the specific UPS model, the Duration In Seconds field might not be available. The screen shown is only an example.

The screenshot shows a dialog box titled "Execute Battery Test". It contains a table with three columns: "Parameter", "Value", and "Notes". A single row is present in the table, corresponding to the "Duration In Seconds" parameter. The "Value" column contains an empty input field, and the "Notes" column contains the text "Enter a number from 1 to 255.". Below the table is a "Execute Command" button.

Parameter	Value	Notes
Duration In Seconds	<input type="text"/>	Enter a number from 1 to 255.

Execute Command

Settings Menu Option

NOTE: The link to this screen is not displayed if you do not have administrative rights.

Click the **Settings** menu option in the left navigation frame to display the Settings screen. This screen enables you to enter contact information (such as name, e-mail, and phone number) and values for settable UPS parameters. The information entered on this screen appears on the Identification and UPS Parameters screens. For more information, refer to the sections, “Identification Menu Option” and “Parameters Menu Option,” in this chapter.

To enter contact information and UPS settings:

1. Enter or select the date on which the battery was installed in the Battery Installed Date field.
2. Enter the name of the contact person in the Contact field.
3. Enter the e-mail address of the contact person in the Contact Email field.
4. Enter the phone number of the contact person in the Contact Phone field.
5. Enter the name of the UPS in the Device Name field.
6. Click **Save Changes** to save the information.

Settings			Help
Variable	Value	Notes	
Battery Installed Date	03/17/2003 <input type="button" value="..."/>	Enter a new date or select the calendar icon to pick a date.	
Contact	<input type="text"/>	Enter a new Contact in the box provided.	
Contact Email	<input type="text"/>	Enter a new Contact Email in the box provided.	
Contact Phone	<input type="text"/>	Enter a new Contact Phone in the box provided.	
Device Name	<input type="text"/>	Enter a new Device Name in the box provided.	
<input type="button" value="Save Changes"/>			

Data Logs

After the HPPM settings are properly configured and devices are being managed, you can access and export several types of logs. These logs provide various types of data on UPS events, as well as more general application events.

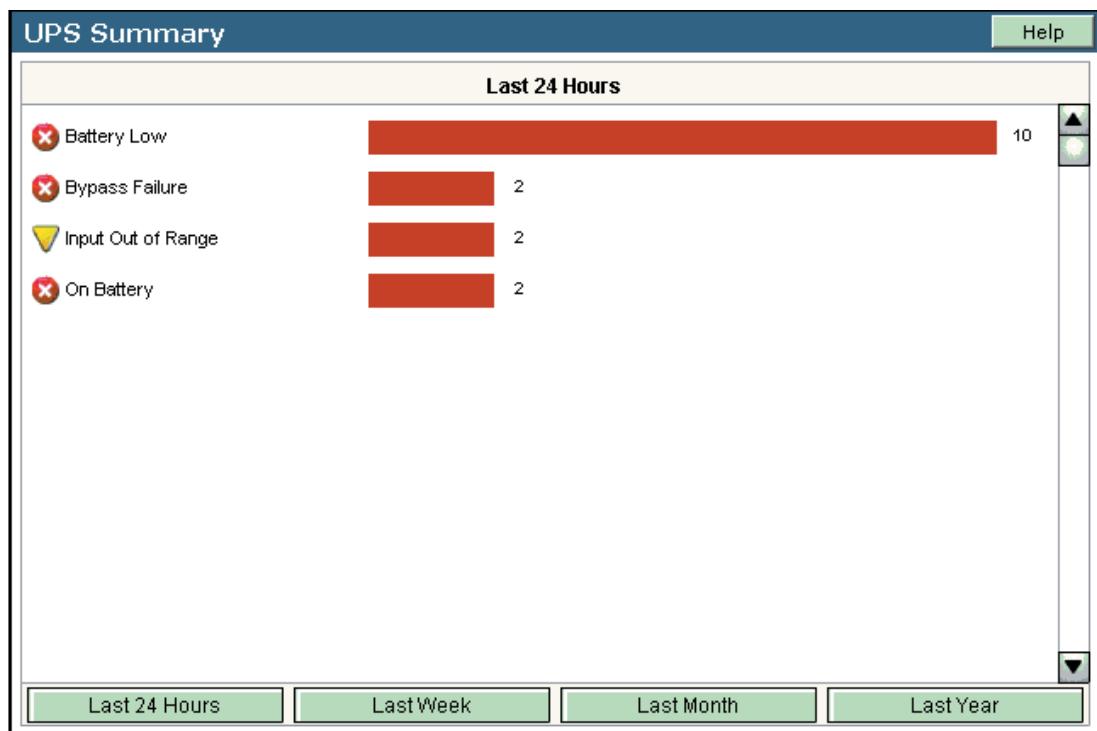
Logs Tab

Menu options listed under the Logs tab include:

- UPS Summary
- UPS Detailed
- UPS Data
- Application

UPS Summary Menu Option

Click **UPS Summary** in the left navigation frame to display the UPS Summary screen. This screen displays a graphical view of the events that have occurred on the UPS for a selected time period. A status icon on the left side of each event indicates the current state of the event (⚠ Warning or ✗ Critical). The number on the right side indicates the number of times the alarm has been reported in the time period (for example, the Battery Low alarm has occurred 10 times in the last 24 hours).



To change the time period displayed, click one of the following buttons:

- Last 24 Hours
- Last Week
- Last Month
- Last Year

NOTE: The time period ends the moment you click the button. For example, if you click **Last 24 Hours**, the software counts back 24 hours from the time you clicked the button and displays the events that occurred during that time period.

Click an event name to display more information about the selected event and recommended actions to take.

UPS Detailed Menu Option

Click **UPS Detailed** in the left navigation frame to display the UPS Detailed screen. This screen displays a log of the events that have occurred on the UPS, such as the UPS switching to battery power. The following information is displayed for each event:

- **Severity**—An icon indicating the severity or status of the alarm (Critical, Warning, Information, or Cleared)
- **Description**—The name of the event (click the event name to display more information, such as a detailed description and recommended actions to take)
- **Date/Time**—The date and time at which the event occurred

NOTE: The log can be sorted by clicking any of the column headings.

Click **Clear Logs** to clear the log files, or click **Refresh Page** to update the screen with current log information.

The screenshot shows a table titled "UPS Detailed" with three columns: "Severity", "Description", and "Date / Time". The "Severity" column uses icons: green checkmark for Cleared, red X for Critical, yellow triangle for Warning, and blue information icon for Information. The "Description" column lists various UPS events. The "Date / Time" column shows the timestamp for each event. At the bottom of the table are buttons for "Clear Logs", "Refresh Page", and "Export Logs". Below the table are four small icons with labels: a red X for "Critical", a yellow triangle for "Warning", a blue information icon for "Information", and a green checkmark for "Cleared".

Severity	Description	Date / Time
	Emergency Power Off is not active.	January 31 2003 at 16:50
	Emergency Power Off activated	January 31 2003 at 16:50
	Utility power has been restored.	January 31 2003 at 14:18
	Input voltage is normal.	January 31 2003 at 14:18
	The UPS is on battery.	January 31 2003 at 14:18
	Input voltage is out of range.	January 31 2003 at 14:18
	Emergency Power Off is not active.	January 31 2003 at 14:08
	Emergency Power Off activated	January 31 2003 at 14:08
	Emergency Power Off is not active.	January 31 2003 at 14:07
	Emergency Power Off activated	January 31 2003 at 14:07
	Emergency Power Off is not active.	January 31 2003 at 14:06
	Emergency Power Off activated	January 31 2003 at 13:59
	Utility power has been restored.	January 31 2003 at 09:41
	Input voltage is normal.	January 31 2003 at 09:41
	The UPS is on battery.	January 31 2003 at 09:41
	Input voltage is out of range.	January 31 2003 at 09:41

Critical Warning Information Cleared

Exporting a UPS Event Log

To export the UPS event log to a file:

1. Click **Export Logs** at the bottom of the UPS Detailed screen. The Event Log Export screen appears.
2. Enter the date range of the data in the Export data from and to fields.
3. Select either **Comma-Separated** or **Tab Delimited**.
4. Do one of the following:
 - To save the file to the Management Server, select **Save to File** and enter the name of the file.
 - To download the document to a specified location, select **Download Document**.
5. Click **Do Export** to export the file, or click **Cancel** to cancel the operation.

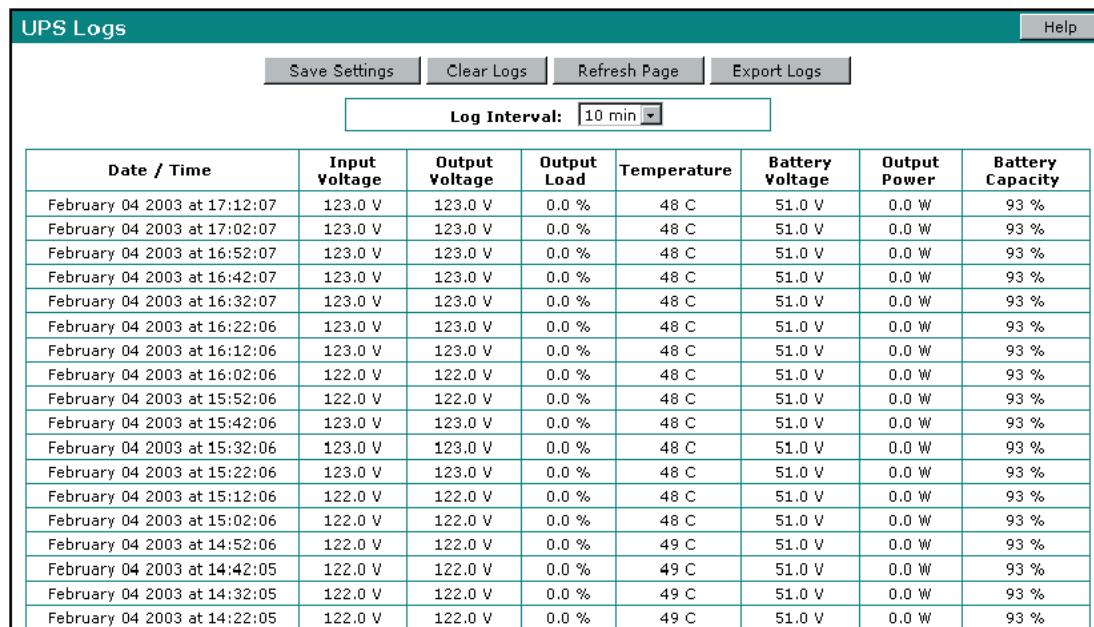
The screenshot shows the 'Event Log Export' dialog box. At the top right is a 'Help' button. Below it is a text input field for 'Export data from' with a calendar icon and another for 'to' with a calendar icon. A note below says '(Please select start and end dates with the provided calendars.)'. Under 'Data Format', there are two radio buttons: 'Comma-Separated' (selected) and 'Tab Delimited'. Below that, there are two options: 'Save to File' (selected) with a text input field containing 'logs.txt' and 'Download Document'. A note below says '(Note: When saving to a file, the file will be saved to the Management Server)'. At the bottom are 'Do Export' and 'Cancel' buttons.

UPS Data Menu Option

Click **UPS Data** in the left navigation frame to display the UPS Logs screen. This screen displays a log of all UPS data that has been recorded, such as Input Voltage, Temperature, and Battery Capacity.

1. Select the frequency of obtaining device data in the Log Interval: dropdown box. (For example, an interval of 10 minutes means that new data is retrieved from the device every ten minutes.)
2. Click **Save Settings** to save the updated log interval time, click **Clear Logs** to clear the log files, or click **Refresh Page** to update the screen with current log information.

NOTE: Depending on the specific UPS model, some of the data columns might not be supported. The screen shown is only an example.



The screenshot shows a software interface titled "UPS Logs". At the top, there are four buttons: "Save Settings", "Clear Logs", "Refresh Page", and "Export Logs". Below these buttons is a dropdown menu labeled "Log Interval:" with the value "10 min" selected. The main area of the screen is a table with the following data:

Date / Time	Input Voltage	Output Voltage	Output Load	Temperature	Battery Voltage	Output Power	Battery Capacity
February 04 2003 at 17:12:07	123.0 V	123.0 V	0.0 %	48 C	51.0 V	0.0 W	93 %
February 04 2003 at 17:02:07	123.0 V	123.0 V	0.0 %	48 C	51.0 V	0.0 W	93 %
February 04 2003 at 16:52:07	123.0 V	123.0 V	0.0 %	48 C	51.0 V	0.0 W	93 %
February 04 2003 at 16:42:07	123.0 V	123.0 V	0.0 %	48 C	51.0 V	0.0 W	93 %
February 04 2003 at 16:32:07	123.0 V	123.0 V	0.0 %	48 C	51.0 V	0.0 W	93 %
February 04 2003 at 16:22:06	123.0 V	123.0 V	0.0 %	48 C	51.0 V	0.0 W	93 %
February 04 2003 at 16:12:06	123.0 V	123.0 V	0.0 %	48 C	51.0 V	0.0 W	93 %
February 04 2003 at 16:02:06	122.0 V	122.0 V	0.0 %	48 C	51.0 V	0.0 W	93 %
February 04 2003 at 15:52:06	122.0 V	122.0 V	0.0 %	48 C	51.0 V	0.0 W	93 %
February 04 2003 at 15:42:06	123.0 V	123.0 V	0.0 %	48 C	51.0 V	0.0 W	93 %
February 04 2003 at 15:32:06	123.0 V	123.0 V	0.0 %	48 C	51.0 V	0.0 W	93 %
February 04 2003 at 15:22:06	123.0 V	123.0 V	0.0 %	48 C	51.0 V	0.0 W	93 %
February 04 2003 at 15:12:06	122.0 V	122.0 V	0.0 %	48 C	51.0 V	0.0 W	93 %
February 04 2003 at 15:02:06	122.0 V	122.0 V	0.0 %	48 C	51.0 V	0.0 W	93 %
February 04 2003 at 14:52:06	122.0 V	122.0 V	0.0 %	49 C	51.0 V	0.0 W	93 %
February 04 2003 at 14:42:05	122.0 V	122.0 V	0.0 %	49 C	51.0 V	0.0 W	93 %
February 04 2003 at 14:32:05	122.0 V	122.0 V	0.0 %	49 C	51.0 V	0.0 W	93 %
February 04 2003 at 14:22:05	122.0 V	122.0 V	0.0 %	49 C	51.0 V	0.0 W	93 %

Exporting a UPS Data Log

To export the UPS data log to a file:

1. Click **Export Logs** at the top of the UPS Logs screen. The Data Log Export screen appears.
2. Enter the date range of the data in the Export data from and to fields.
3. Select either **Comma-Separated** or **Tab Delimited**.
4. Do one of the following:
 - To save the file to the Management Server, select **Save to File** and enter the name of the file.
 - To download the document to a specified location, select **Download Document**.
5. Click **Do Export** to export the file, or click **Cancel** to cancel the operation.

The screenshot shows the 'Data Log Export' dialog box. At the top right is a 'Help' button. Below it is a text input field for 'Export data from' with two calendar icons to its right, followed by a 'to' field with two calendar icons to its right. A note below says '(Please select start and end dates with the provided calendars.)'. In the middle section, 'Data Format:' is set to 'Comma-Separated' (radio button selected). Below that, 'Save to File' is selected (radio button selected) and the file name 'logs.txt' is entered into a text input field. The 'Download Document' option is also present. At the bottom are 'Do Export' and 'Cancel' buttons.

Application Menu Option

Click **Application** in the left navigation frame to display the Application Logs screen. This screen displays a log of all application events that have occurred, such as a user logging in. The following information is displayed for each application event:

- **User**—The login name of the user who performed the action
- **Description**—A description of the application event
- **Date/Time**—The date and time at which the event occurred

NOTE: The log can be sorted by clicking any of the column headings.

Click **Clear Logs** to clear the log files, or click **Refresh Page** to update the screen with current log information.

Application Logs			Help
User	Description	Date / Time	
admin [127.0.0.1]	Data Log Configuration Changed	March 17 2003 at 15:20	
admin [127.0.0.1]	Event Log cleared	March 17 2003 at 14:47	
admin [127.0.0.1]	Event Log cleared	March 17 2003 at 14:46	
admin [127.0.0.1]	Event Log cleared	March 17 2003 at 14:43	
admin [127.0.0.1]	User logged in	March 17 2003 at 14:43	
administrator [127.0.0.1]	User failed to login	March 17 2003 at 14:43	
administrator [127.0.0.1]	User failed to login	March 17 2003 at 14:42	
Herb [172.25.234.50]	User failed to login	January 31 2003 at 10:15	
admin [127.0.0.1]	Contact changed from {blank value} to	January 31 2003 at 10:03	
admin [127.0.0.1]	Device Name changed from T2200XR to T2200XR On Table 1	January 31 2003 at 10:03	
admin [127.0.0.1]	Contact changed from {blank value}	January 31 2003 at 10:02	
admin [127.0.0.1]	Device Name changed from {blank value} to T2200XR	January 31 2003 at 10:02	
admin [127.0.0.1]	Battery Installed Date changed from 1/31/2003 to 1/17/2003	January 31 2003 at 10:02	
admin [127.0.0.1]	Contact Phone changed from {blank value} to	January 31 2003 at 10:02	
admin [127.0.0.1]	Contact Email changed from {blank value} to	January 31 2003 at 10:02	
admin [127.0.0.1]	Contact changed from {blank value} to	January 31 2003 at 10:02	
admin [127.0.0.1]	Device Name changed from {blank value} to	January 31 2003 at 10:02	
admin [127.0.0.1]	User logged in	January 31 2003 at 09:22	
Ralph [127.0.0.1]	User logged in	January 31 2003 at 09:20	
admin [127.0.0.1]	User Accounts Configuration Changed	January 31 2003 at 09:20	
admin [127.0.0.1]	User logged in	January 31 2003 at 09:18	
admin [127.0.0.1]	User failed to login	January 31 2003 at 09:18	
Ralph [127.0.0.1]	User failed to login	January 31 2003 at 09:18	
Bruce [127.0.0.1]	User failed to login	January 31 2003 at 09:17	
admin [127.0.0.1]	User failed to login	January 31 2003 at 09:17	
sissy [127.0.0.1]	User failed to login	January 31 2003 at 09:17	
	Management Server started	January 31 2003 at 09:15	

Clear Logs **Refresh Page** **Export Logs**

Exporting an Application Log

To export the application log to a file:

1. Click **Export Logs** at the bottom of the Application Logs screen. The Application Log Export screen appears.
2. Enter the date range of the data in the Export data from and to fields.
3. Select either **Comma-Separated** or **Tab Delimited**.
4. Do one of the following:
 - To save the file to the Management Server, select **Save to File** and enter the name of the file.
 - To download the document to a specified location, select **Download Document**.
5. Click **Do Export** to export the file, or click **Cancel** to cancel the operation.

The screenshot shows the 'Application Log Export' dialog box. At the top right is a 'Help' button. Below it is a text input field for 'Export data from' with a calendar icon [1] and another for 'to' with a calendar icon [2]. A note below says '(Please select start and end dates with the provided calendars.)'. In the middle, 'Data Format:' has two radio buttons: 'Comma-Separated' (selected) and 'Tab Delimited'. Below that, 'Save to File' is selected (radio button checked) and a text input field contains 'logs.txt'. The 'Download Document' option is unselected. A note below says '(Note: When saving to a file, the file will be saved to the Management Server)'. At the bottom are 'Do Export' and 'Cancel' buttons.

Account Setup and Help

For security purposes, HPPM provides each user with a login account that is associated with specific device access. Administrators may manage and change this information when needed.

An online help system is also available to all HPPM users.

Setup Tab

Menu options listed under the Setup tab include:

- My Account
- User Accounts

My Account Menu Option

Click **My Account** in the left navigation frame to display the My Account screen. This screen enables you to change your login password.

To change a password:

1. Enter your password in the Password field.
2. Enter your password again in the Verify Password field.
3. Click **Save Changes** to save the new password.

The screenshot shows a 'My Account' screen with a teal header bar containing the title and a 'Help' button. Below the header is a form with three rows. The first row has a label 'Login Name:' followed by the value 'admin'. The second row has two columns: 'Password' and 'Verify Password', both represented by empty input fields. The third row contains a single 'Save Changes' button. The entire form is enclosed in a black border.

User Accounts Menu Option

NOTE: The link to this screen is not displayed if you do not have administrative rights.

Click **User Accounts** in the left navigation frame to access the User Accounts screen. This screen enables administrators to manage user accounts.

The screenshot shows a software interface titled "User Accounts". At the top right is a "Help" button. Below the title is a table with the following columns: "Delete", "Name", "Password", "Verify Password", and "Administrator". The "Name" column contains entries: "admin", followed by nine empty fields. The "Administrator" column has one checked checkbox for the "admin" entry and eight empty checkboxes for the others. At the bottom are two buttons: "Save Changes" and "Delete Selected Users".

Delete	Name	Password	Verify Password	Administrator
<input type="checkbox"/>	admin			<input checked="" type="checkbox"/>
<input type="checkbox"/>				<input type="checkbox"/>
<input type="checkbox"/>				<input type="checkbox"/>
<input type="checkbox"/>				<input type="checkbox"/>
<input type="checkbox"/>				<input type="checkbox"/>
<input type="checkbox"/>				<input type="checkbox"/>
<input type="checkbox"/>				<input type="checkbox"/>
<input type="checkbox"/>				<input type="checkbox"/>
<input type="checkbox"/>				<input type="checkbox"/>

Save Changes Delete Selected Users

Adding a User Account

To add a new user account:

1. Enter the user's login name in the Name field.
2. Enter the user's password in the Password field.
3. Enter the password again in the Verify Password field.
4. If the new user is given administrator rights, select the **Administrator** checkbox.
5. Click **Save Changes** to save the new user account information.

Modifying a User Account

If you have administrator rights, you can change a user's login name or password. You can also add or remove administrator rights to the user's account.

Changing a User Login Name

To change a user's login name:

1. Enter the changed name in the Name field.
2. Enter the user's password in the Password field.
3. Enter the password again in the Verify Password field.
4. If the user has administrator rights added or removed, select or deselect the **Administrator** checkbox.
5. Click **Save Changes** to save the updated user account information.

Changing a User Password

To change a user's password:

1. Enter the user's login name in the Name field.
2. To change the password:
 - a. Enter the changed password in the Password field.
 - b. Enter the password again in the Verify Password field.
3. If the user has administrator rights added or removed, select or deselect the **Administrator** checkbox.
4. Click **Save Changes** to save the updated user account information.

Deleting a User Account

To delete a user account:

1. Select the **Delete** checkbox for the user account that is to be removed.
2. Click **Delete Selected Users** to delete the user account. The account is removed and no longer appears on the User Accounts screen.

Help Tab

Menu options listed under the Help tab include:

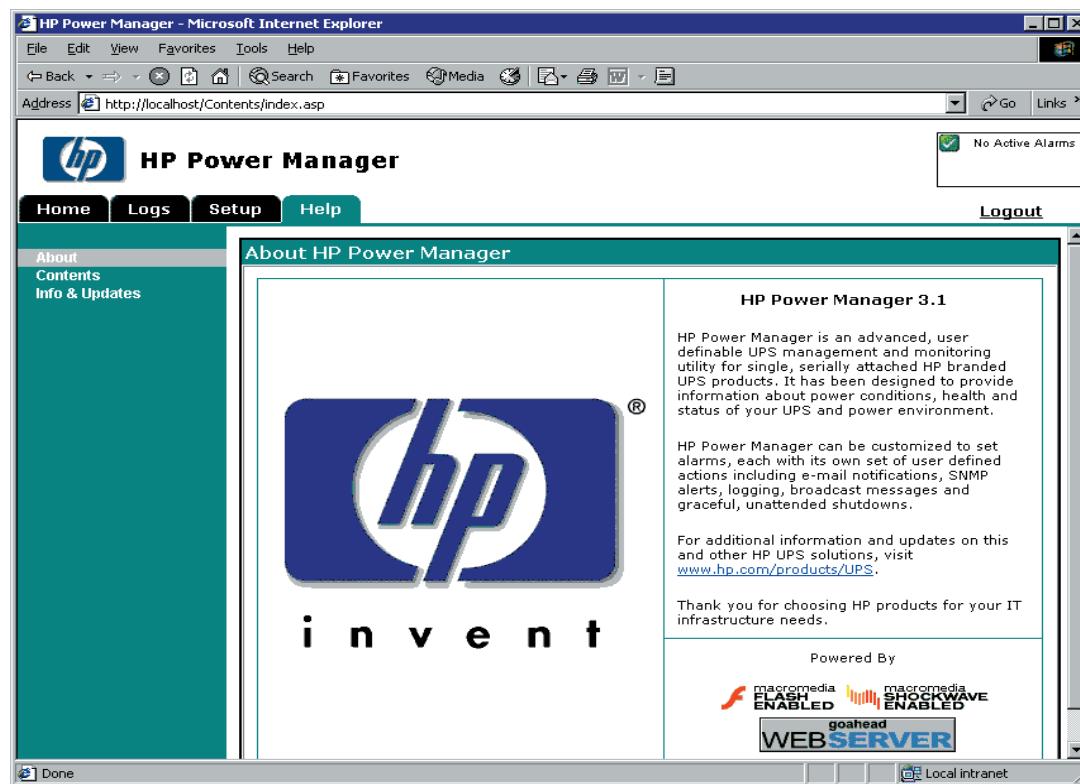
- About
- Contents
- Info & Updates

About Menu Option

Click **About** in the left navigation frame to display the About HP Power Manager screen. This screen displays information about the company and product.

The screen contains a link to <http://www.hp.com/products/UPS>, as well as the following hyperlinked logos:

- HP Invent—Connects to <http://www.hp.com>
- Macromedia Shockwave/Flash—Connects to <http://www.macromedia.com>
- GoAhead—Connects to <http://www.goahead.com>



Contents Menu Option

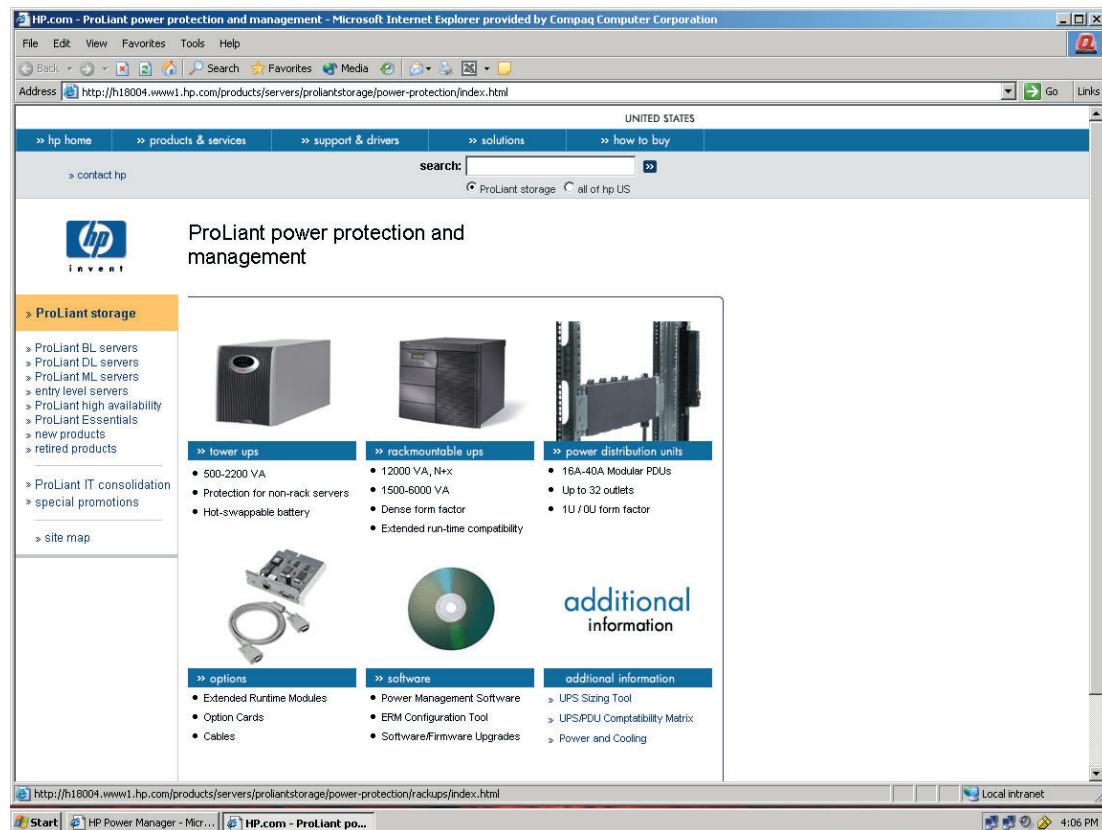
Click **Contents** in the left navigation frame to display the Contents screen. This screen provides a list of links to help topics.

The screenshot shows the HP Power Manager software interface. At the top, there is a header with the HP logo and the title "HP Power Manager". Below the header is a navigation bar with four tabs: "Home", "Logs", "Setup", and "Help". The "Help" tab is currently selected, indicated by a blue background. On the left side of the interface, there is a vertical navigation bar with three main categories: "About", "Contents", and "Info & Updates". The "Contents" category is also highlighted with a blue background. The main content area is titled "Table of Contents" and contains several sections and their sub-links:

- Home Tab**
 - [Overview](#)
 - Meter Display Tab
 - UPS Animation Tab
 - Alarms Tab
- [Alarms](#)
- [Identification](#)
- [Parameters](#)
- [Attached Devices](#)
 - Controlling a Load Segment
 - Adding an Attached Device
 - Editing or Deleting an Attached Device
- [Power Fail](#)
 - Configuring the Shutdown Delay for the Management Server Load Segment
 - Configuring Shutdown for All Other Load Segments
- [Shutdown Events](#)
- [Event Settings](#)
 - Creating User-Defined Categories
 - Categorizing Individual Events by Severity
 - Selecting Notification Actions for Event Categories
 - E-mail
 - SNMP
 - Broadcast
- [Manual Control](#)
 - Executing the Battery Test Command
- [Settings](#)
- Logs Tab**
 - [UPS Summary](#)
 - [UPS Detailed](#)
 - Exporting a UPS Event Log
 - [UPS Data](#)
 - Exporting a UPS Data Log
 - [Application](#)
 - Exporting an Application Log
- Setup Tab**
 - [My Account](#)
 - [User Accounts](#)
 - Adding a User Account
 - Modifying a User Account
 - Deleting a User Account
- Help Tab**
 - [About](#)
 - [Info & Updates](#)

Info & Updates Menu Option

Click **Info & Updates** in the left navigation frame to access the Info & Updates screen. This screen displays UPS information, online registration, and links to HP.



Troubleshooting

Table 7-1 lists troubleshooting items that can occur during HPPM installation or operation.

Table 7-1: Troubleshooting

Issue or Symptom	Possible Cause	Suggested Action
You cannot access HPPM after installation.	You exited the system tray icon in Windows and must restart the HPPM icon.	From the Start menu, select Programs>HP Power Manager>HP Power Manager Status .
	You need the SNMP MIB file for HPPM.	The file is named CPQRPM.MIB and should be version 1.5 or greater. The file can be found on the HP Rack and Management Pack CD and in the install folder of the HPPM Management Server. This MIB is shared with other HP power management applications such as HP Rack and Power Manager.
	You chose an HTTP port number other than the default (80) during installation.	Be sure to include this port number when browsing to HPPM. For example, if you chose port 1234 during installation, enter the following in your browser for HPPM access: <code>http://hostname:1234</code> Note: <i>hostname</i> can be either a machine name or an IP address.
	Other Web servers or Web-based applications are running on the same port.	Do one of the following: <ul style="list-style-type: none"> • Ensure that no other Web servers or Web-based applications are running on the same port. • Try using another port during installation or reconfiguration. For a list of the Well Known Port Numbers that could be in use, refer to http://www.iana.org/assignments/port-numbers .

continued

Table 7-1: Troubleshooting *continued*

Issue or Symptom	Possible Cause	Suggested Action
You cannot access HPPM after installation (continued).	The Management Server software might not be running.	Start the Management Server software: For Linux, run <code>/etc/rc.d/init.d/DevMan start</code> . For Windows, right-click the icon in the system tray and select Start Service , or select Programs>HP Power Manager>Configure HP Power Manager from the Start Menu.
	You chose SSL during installation.	Be sure to use HTTPS instead of HTTP in your browser to access HPPM. For example, https://hostname:1234 would establish a secure socket layer link to HPPM running on port 1234.
	Selecting Exit from the system tray menu only removes the HPPM icon from the system tray.	Restart the system tray icon by selecting Programs>HP Power Manager>HP Power Manager Status from the Start Menu. Right-click the system tray icon and select Stop Service from the context menu.
You are not able to reboot the machine.	The system hangs when the InstallShield wizard for the Remote Agent is left open and minimized during the attempted reboot.	Manually power off the machine.
When you are preparing to install silently, the DevManRA.ini or DevManBE.ini files cannot be located.	The DevManRA.ini and DevManBE.ini files are automatically created in the top-level program directory.	For Linux, both files can be found at <code>/usr/local/DevMan</code> . For Windows, if installed to the default location, the files are located at <code>/Program Files/HP/Power Manager</code> on the Management Server, and at <code>/Program Files/HP/Power Manager Remote Agent</code> on the Remote Agent.
You are unable to start service for Linux or the error message Segmentation fault /usr/local/DevMan displays.	The server name and IP address are incorrect.	Update the server name and IP address on <code>/etc/hosts</code> .
Linux shows a page with garbage characters and cannot install the Flash Player utility.	This is a function of the browser.	Save the Flash Player setup file to the local drive and run it from there.

continued

Table 7-1: Troubleshooting *continued*

Issue or Symptom	Possible Cause	Suggested Action
You are unable to browse into HPPM.	The Mozilla default settings are incorrect.	Open the all.js file in the mozilla/defaults/pref folder and change the lines as indicated in the section, "Mozilla Settings," in Chapter 2 of this guide.
You are unable to start service for Linux.	Files are missing.	The HPPM Linux package (PowerManager-3.1-X.i586.rpm) requires the file compat-libstdc++-7.3-2.96.110.i386.rpm to install.
You are not able to discover a UPS during initial or subsequent configurations.	The UPS is not connected to the correct communications port.	Verify that the UPS is connected to the correct communications port (COM1, COM2, etc.).
	Other software or processes are accessing the communications port to which the UPS is attached.	Verify that no other software or processes are accessing the communications port to which the UPS is attached.
	You are using the wrong communications cable.	Verify that you are using the communications cable that came with the UPS.
	Resources for the communications port are shared with other devices.	Verify that resources for the selected communications port (such as I/O port or IRQ) are not shared with other devices.
	The wrong communications port is connected.	Try a different communications port.
Broadcasts from HP Power Manager are not displaying on the expected recipient.	The broadcast setup under HP Power Manager is incorrect.	For broadcast messages from Linux to Windows, the Netbios name of the recipient must be used. Also, refer to the configuration information regarding Linux broadcasts in Chapter 4 of this guide.
	The Messenger service is not enabled.	Enable the Messenger service. The Messenger service is accessed from the Services option in the Administrative Tools section of the Control Panel.

continued

Table 7-1: Troubleshooting *continued*

Issue or Symptom	Possible Cause	Suggested Action
After adding a Remote Agent on the Attached Devices screen, a red status icon continues to display for that Remote Agent.	The Remote Agent software might not be running.	<p>Start the Remote Agent software:</p> <ul style="list-style-type: none"> • For Linux, run <code>/etc/rc.d/init.d/DevMan start</code>. • For Windows, right-click the icon in the system tray and select Start Service. • For Netware, load the agent from the directory to which it was installed, such as <code>SYS:HPPM/DEVMANRA.NLM</code>, using forward slashes to separate directories.
	The Remote Agent might not be configured to allow management from the address of the Management Server.	<p>Configure the Remote Agent to allow management by the Management Server:</p> <ul style="list-style-type: none"> • For Linux, run <code>/etc/rc.d/init.d/DevMan setup</code>. • For Windows, right-click the icon in the system tray and select Configure, or select Programs>HP Power Manager>Configure HP Power Manager from the Start Menu. • For Netware, uninstall and reinstall the Remote Agent according to instructions in Chapter 2 of this guide.
After changing UPS hardware the Management Server shows No Device or UPS Not Connected.	The Management Server cannot communicate with the UPS due to the change.	<p>Reconfigure the UPS with the new settings:</p> <ul style="list-style-type: none"> • For Linux, run <code>/etc/rc.d/init.d/DevMan setup</code>. • For Windows, right-click the icon in the system tray and select Configure.
		Verify the connection is the same as previously installed.
Low battery.	The battery is low on voltage.	<p>Allow the battery to recharge for 24 hours. Rack and Power Manager sends a low battery warning approximately two to five minutes before UPS shutdown. This warning is approximate, and the actual time to shutdown can vary significantly.</p>
		Replace the battery. Refer to the documentation that came with the UPS.

Table 7-1: Troubleshooting *continued*

Issue or Symptom	Possible Cause	Suggested Action
On battery.	The UPS system is operating on battery power.	The UPS continues to run on battery power until the battery is completely discharged (or until utility power is restored), unless the shutdown parameters specify to turn off both the system and the UPS.
On buck.	The input voltage is too high for the UPS. The UPS bucks the voltage down to acceptable limits.	For information on Buck mode, refer to the UPS documentation.
On boost.	The input voltage is too low for the UPS. The UPS boosts the voltage up to acceptable limits.	For information on Boost mode, refer to the UPS documentation.
Overload.	The device load has exceeded the UPS power rating.	Verify all equipment is drawing within the rated requirements. If necessary, reduce the equipment connected to the UPS. The UPS might need to be reset.
The UPS is in Bypass mode.	The load is being powered by utility power. However, utility power continues to be passively filtered by the UPS. Battery protection is not available while in Bypass mode.	Refer to the UPS front panel for alarm indications. If the UPS does not return to normal operation soon, refer to the UPS documentation for troubleshooting information.
Battery test completed.	The battery test of the UPS has completed.	View the results of the battery test on the Logs and Reports screen.
No power.	A power failure occurred.	Verify that the UPS is connected to a working outlet and that the UPS is powered up.
Battery test did not run when executed.	The UPS is On Battery.	The UPS must be in a certain state before the battery test runs. Refer to the section, "Parameter Menu Option," in Chapter 4.
The attached device did not shut down gracefully.	The Runtime Limit estimate was not accurate.	Verify the Shutdown on low battery? option is selected.
No shutdown warning messages on the NetWare 6 System Console.	Broadcast messages do not display on NetWare 6 System Console.	View the Power Manager Remote Agent screen for broadcast messages.

continued

Table 7-1: Troubleshooting *continued*

Issue or Symptom	Possible Cause	Suggested Action
During a battery test the input frequency shows zero, but the input voltage is showing regular line voltage.	When executing a battery test, the parameters might show incorrect information.	Check parameters after the battery test is complete.
Receiving Security Error: Domain Name mismatch message when trying to browse with SSL.	The IP address or server name has changed.	Stop the service, delete the certificate file, and restart the service.
Task bar menu does not clear when clicking off the menu onto the Windows desktop.	Known Windows behavior.	Start another application or open a new window, and the issue disappears.
Servers running Windows Server 2003 do not restart upon power restoration following a power fail shutdown.	Known Windows Server 2003 behavior on some servers.	Refer to the Microsoft Knowledge Base article 819760.
User is forced to cold boot system when trying to restart the operating system minimizing the InstallShield wizard of Power Manager/Remote Agent.	InstallShield is active or running.	Close InstallShield and reboot the system.
Intermittent red warning status for Output Frequency on the R3000 XR On Battery.	Output frequency fluctuations are occurring.	None required.
For the R3000 XR, turning off the UPS from the front panel does not result in "Manual Load Dumped" alarm.	Alarm not supported for this model.	None required.
R3000 XR/R12000 XR UPS Animation Page does not match the Active Alarms Page.	Animation does not reflect all alarms.	Use animation page only for monitoring battery and power status.
HPPM shows shutdown events succeeded message when entering a valid or an invalid entry for delay without selecting the Shutdown checkbox.	Delay in application.	Delay can be saved before selecting the Shutdown checkbox.

continued

Table 7-1: Troubleshooting *continued*

Issue or Symptom	Possible Cause	Suggested Action
Power Manager will allow multiple status icons at the system tray.	Multiple status tray icons on Windows.	Close each icon individually.
DevManRA.nlm does not load correctly.	Install is unable to retrieve the hostname.	Verify the host file and ensure no leading zeros are in the IP address (for example 172.025.240.230), which can cause failure to obtain the host name.
Silent install did not execute successfully.	An error occurred during the silent installation.	<p>Verify the command line parameters are correct.</p> <p>Verify the configuration .INI file is valid.</p> <p>Verify the Setup.iss destination path is correct.</p>
		Refer to the InstallShield Knowledge Base article 101901 for the setup.log result code.

A

Alert Messages

HPPM enables you to execute a command, send an e-mail, send a broadcast notification, and send SNMP traps to specified recipients if a certain alert situation prevails.

A list of all message texts and a description of each alarm is provided in Table A-1.

Table A-1: HPPM Alarm Messages

Alarm Text	Description
Battery Discharged	The battery is not fully charged.
	The battery has been discharged to its maximum discharged state.
	The UPS was on battery for long enough to exhaust the battery capacity and has shut down.
Batteries Disconnected	The UPS detects that at least one of the batteries is not connected. Backup power is either gone or considerably reduced.
Battery Failure	The battery contactor/breaker is open.
	The battery voltage has exceeded a predetermined limit. Operating with this alarm set can cause permanent battery or system damage.
	A battery problem has been detected.
Battery Low	A battery test has been executed, and the battery failed the test.
	The charger circuit has detected possible bad batteries or an open circuit in connections to the batteries.
	The battery voltage level has dropped below the predetermined "low battery warning" level.
Bypass Failure	The bypass input voltage is not available for transfer. This might be caused by over or under voltage, over or under frequency, out of phase lock, or other reasons.
Bypass ON Auto	The UPS is on bypass, and the critical load does not have power protection.
Bypass ON Manual	A user has flipped a switch (for example, Maintenance Bypass) that bypasses the UPS.

continued

Table A-1: HPPM Alarm Messages *continued*

Alarm Text	Description
Check Breaker	The inverter output contactor/breaker is open.
	The rectifier/charger input breaker is open.
Electronics Module Failure	For an “n+1” parallel system, one of the power modules has failed.
EPO Initiated	The UPS has shut down because of the activation of the remote EPO signal.
Input Out of Range	Input (Utility) fault: Measured input voltage has exceeded the upper voltage limit specification for normal operation.
	Input (Utility) fault: Measured input voltage is less than the lower voltage limit specification for normal operation.
	Input (Utility) fault: Measured input frequency is outside either the upper or lower frequency limit specification for normal operation.
	Rectifier fault: Measured rectifier input current exceeds the upper current limit specification for normal operation.
	The utility input power is not within predetermined limits. This is possibly caused by over voltage, under voltage, over frequency, under frequency, or over current.
	The utility input is not present, and detected voltage is zero.
Internal Failure	An attempt to automatically recalibrate the UPS has failed.
	Charger fault: The battery charger has failed.
	DC Link fault: Measured DC link voltage has exceeded the upper voltage limit specification for normal operation.
	At least one fan in the UPS has failed.
	At least one fuse in the UPS has failed and must be replaced.
	Inverter fault: Measured inverter output voltage has exceeded the upper voltage limit specification for normal operation.
	Inverter fault: Measured inverter output voltage is less than the lower voltage limit specification for normal operation.
	The inverter module has failed its power up self-test or its continuous self-test.
	Inverter fault: The inverter has failed.
	The inverter output has failed, and cannot support the load. The reasons for this alarm are, for example: inverter over or under voltage, over or under frequency, distorted waveform, and output out-of window.
	Inverter fault: The measured inverter output current exceeds the upper current limit specification for normal operation.
	The inverter output voltage sensor has not been calibrated.
	For a parallel system, this module has detected that the sync bus is not active.

continued

Table A-1: HPPM Alarm Messages *continued*

Alarm Text	Description
Internal Failure, continued	A test of the device EEPROM has detected a checksum failure. The device either has not been programmed or contains suspicious data.
	A test of the device ROM has detected a checksum or CRC error. The device's operating code is suspicious and should be replaced or reflashed.
	In a multi-module system or internally to a UPS with multiple controllers, the firmware versions in place are not compatible with each other.
Manual Load Dumped	The load power is off. This alarm is used to record the date and time of an EPO event.
On Battery	The UPS is using the battery to power the load.
Output Out of Range	Measured output voltage has exceeded the upper voltage limit specification for normal operation.
	Measured output voltage is less than the lower voltage limit specification for normal operation.
	Measured output frequency is outside the upper or lower frequency limit specification for normal operation.
Overload	Overload alarms are sent based on the individual UPS model overload protection specifications that are available in the UPS documentation.
	The load on the UPS output phase exceeds its rated current or power by more than a small margin over 100%. The inverter can only sustain this overload for a short time without shutting down because of overheating.
Shutdown Imminent	The UPS has entered a state where it might abruptly shut down without further notice. It might continue to operate indefinitely, even with this alarm being asserted.
Shutdown Pending	A condition in the UPS will lead to the loss of power to the loads in less than the Low Battery Time, unless the condition is cleared or removed.
Site Wiring Fault	There is a fault in the input wiring, other than Phase Rotation (for example, Ground/Neutral reversed).
Temperature Out of Range	An ambient temperature probe has detected that the temperature is above its upper limit.
	A heatsink at an unspecified location in the UPS has failed.
	An input or output transformer used by the UPS has exceeded its upper temperature limit.
UPS Started On Battery	The UPS has been started on battery when AC input power is not present. This alarm is used to record the date and time of this event.

Using HPPM with Insight Manager 7

HPPM software can be configured to send alert traps to Insight Manager 7, as well as other SNMP management applications. To send event alert traps to Insight Manager 7:

- Configure Insight Manager 7 to receive a trap from HPPM.
- Configure HPPM to send the appropriate event alert traps.

If HPPM is installed using the default HTTP on Port 80, a link to the software is displayed on the device home page in Insight Manager 7 SP2 for the computer with HPPM.

If the defaults are not used, a new entry can be made to the additionalwsdisc.props file located in the CONFIG directory in the Insight Manager 7 install directory to correctly discover and identify HPPM running on any computer. Beginning with the SP2 release, Insight Manager 7 is installed in the C:\Program Files\HP\Insight Manager 7 directory by default. For more information on editing the additionalwsdisc.props file, refer to the additionalwsdisc.txt file located in the same directory.

Example B-1: ADDITIONALWSDISC.PROPS file with HPPM Entry

```
# -----
# Additional Web Server Discovery Properties
#
# -----
# NOTE: See "additionalWsDisc_README.txt" for a description of entries in
# this file and how to add or remove additional web server ports used for
# discovery and identification.
# -----
#
# -----
# The following are actual web server ports enabled by default.
# To remove them from the discovery process, comment out the line with a '#'
# or remove it. You will need to restart the Insight Manager 7 service for
# the changes to take effect. In addition you will need to run the Device
# Identification task to find any new ports that were defined.
# -----
411=Director Agent, ,true,false, ,http
3201=Compaq TaskSmart, ,true,false, ,https
8008=Default Home Page, ,true,false, ,http
1311=Server Administrator, ,true,false, ,https
1234=HP Power Manager, ,true,false, ,https
```

The last entry allows Insight Manager 7 to detect HPPM installations that are running on Port 1234 and that are using HTTPS (Secure Socket Layer Protocol).

Configuring Insight Manager 7

Verify that the HPPM MIB (CPQRPM.MIB) is registered in Insight Manager 7:

1. Upload the HPPM MIB. The HPPM MIB (CPQRPM.MIB) can be found on the HP Rack and Power Management Pack CD and in the install folder of the HPPM Management Server.
2. Register the HPPM MIB.

NOTE: For additional information on uploading and registering an MIB in Insight Manager 7, refer to the *HP Insight Manager Technical Reference Guide* located on the HP Management CD.

Configuring HPPM

To configure HPPM to send traps to Insight Manager 7:

1. Add the Insight Manager 7 server as an SNMP Trap recipient.
2. Configure HPPM to send alert notifications to Insight Manager 7 as SNMP traps.

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